Evidence-based Screening, Brief Intervention and Referral to Treatment for Substance-Using Adolescents with Delinquent-Type Behaviours

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ADI	Adolescent Diagnostic Interview
APQ	Alabama Parenting Questionnaire
AUC	Area under curve
BI	Brief intervention
CFIR	Consolidated Framework for Implementation Research
DMS	Diagnostic and Statistical Manual of Mental Disorders
EBP	Evidence-based programme
FRAMES	Feedback, responsibility, advice, menu, empathy, self-efficacy
GAIN-SS	Global Appraisal of Individual Needs Short Screener
IPW	Inverse proportional weighting
NPV	Negative predictive value
ORC	Organisational readiness to change
PCES	Peer Chemical Environmental Scale
PESQ	Personal Experience Screening Questionnaire
PPV	Positive predictive value
RAD-PAL	Reducing Alcohol and Other Drugs and Problem Behaviours among Adolescent Learners
ROC	Receiver operating characteristic
SACENDU	South African Community Epidemiological Network on Drug Use
SES	Socio-economic status
SOCRATES	Stages of Change Readiness & Treatment Eagerness Scale
SRDS	Self-Report Delinquency Scale
TI	Teen Intervene
USA	United States of America

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Abstract

Background: Both substance use and delinquent-type behaviours are prevalent among adolescents in Cape Town, South Africa. However, early interventions in developed countries for adolescents with similar problems are not available in many low and middle income countries, including South Africa. This is a concern as providing evidence-based interventions that address these dual behavioural problems may prevent their progression. There is thus a need for identifying and understanding the kinds of interventions that would be able to address both of these problems **Aim:** The aim of this thesis is to identify an evidence-based intervention for reducing adolescent substance use and delinquent-type behaviours and adapt it for use among adolescents in Cape Town, South Africa. **Method:** This study comprised six parts. Study I utilised a longitudinal data set to examine the association between substance use and delinquent-type behaviours, as well as the trajectory of these behaviours among school-going adolescents in Cape Town. As one needs to know how to identify adolescents who would benefit from such an intervention, Study II identified suitable screening tools for identifying these adolescents. While screening tools are generally brief instruments to identify problems with substance use, assessment instruments for those adolescents who screen positive would more comprehensively assist in the further evaluation of their problem behaviours, as well as measure other risk factors for substance use and delinquent-type behaviour. Study III therefore tested and adapted assessment tools for those adolescents who screen positive for substance use and delinquent-type behaviour. The next step was to identify a suitable evidence-based brief intervention that addressed substance use and delinquent-type behaviours in an integrated manner. Study IV consisted of a systematic review and meta-analysis to identify such an intervention. As only studies from developed countries were included in the review, the final two studies concentrated on adapting the intervention identified in Study IV with service providers and adolescents in focus groups.

Study V consisted of a cultural adaptation which tested the ecological validity of the identified brief intervention in Cape Town communities. Study VI was a content adaptation that modified the brief intervention for adolescents in this context, and to include a focus on delinquent-type behaviours. **Results:** The final result is a screening, brief intervention and referral to treatment (SBIRT) package that is ready to be tested for efficacy on substance use and delinquent type behavioural outcomes. Each study contributes to the different components that make up this package. The results from the longitudinal study indicated that while substance use is not predictive of delinquent-type behaviours, these two behaviours co-occur at different stages of adolescence. In addition, adolescents that smoked and were delinquent were at significantly higher risk of engaging in later delinquent-type behaviour. This suggests that it would be efficient to address the two risk behaviours simultaneously using an integrated intervention. The GAIN-SS was identified as an easy-to-use and psychometrically sound short screener for identifying adolescents with both problems who may benefit from a brief intervention. The comprehensive assessment tool developed for use if an adolescent screens positive and may therefore be eligible for such a brief intervention, measured the following core domains: substance use, delinquency, parenting practices, peer substance use and readiness to change. These were modified based on both adolescent participants' and experts' recommendations. Following assessment, *Teen Intervene* was identified as the brief intervention which was the most effective in reducing early adolescent substance use and consequences related to substance use. While this promising intervention addresses substance use and behavioural outcomes broadly, it did not do so in an integrated and comprehensive manner. *Teen Intervene* was also only tested in one population, and the results of the qualitative studies (V and VI) were therefore helpful in the adaptation of the intervention. Qualitative work found that the context that adolescents in the study have been exposed to within their home setting, school and community, as well as their relationships

with people within these settings, influence their engagement in risk behaviours. Therefore ensuring ecological validity is important when modifying the identified intervention for use in Cape Town. The intervention was expanded to include a focus on delinquent-type behaviours and a handbook was developed for adolescents that contained information from the, skills-building exercises, as well as goal setting from the original intervention for the individual adolescent. Recommendations for the implementation of this intervention showed that the types of recruitment strategies in place may affect the uptake of services, and organisational factors (organisational readiness, staff issues, available resources) may affect the delivery of intervention services. Such issues should be taken into account before implementation takes place. **Conclusion:** This thesis is one of the first to investigate the relationship between substance use and delinquent-type behaviours in a developing country setting. It describes the identification of an SBIRT package for substance use and delinquent type behaviours among adolescents, and how these were adapted to develop an integrated intervention that addresses both of these problems. This adapted intervention may provide an option of tailor-made services for adolescents in disadvantaged communities in Cape Town, where adolescents are often affected by a host of social problems but where a lack of resources are available to address these problems. The contextual and content-based adaptation processes highlighted the importance of working with adolescents directly to ensure that the intervention adequately addressed the local context as well as the specific issues that they face, at their level of understanding. The engagement of service providers, who may be trained to deliver this integrated intervention package, was also important to address possible challenges that could occur while delivering the intervention. The next steps in the process would be to implement the adapted version of the intervention to iron out some of the potential implementation issues that were alluded to above, and ultimately to assess its efficacy in addressing the very real social conditions described in Chapter 1.

Chapter 1

Introduction to Substance Use, Delinquent-Type Behaviours and Services

Adolescence (defined here as between age 12 and 19 years old) is a developmental period where risk-taking behaviours, defined as any behaviour that can negatively affect psychological, social or physical well-being (Flisher & Gevers, 2010), are common. Some degree of risk-taking is a normal part of adolescent development due to psychological processes such as identity formation (Meeus, 2011), as well as the continued development of the executive functioning area of the brain responsible for impulse control (Casey, Getz, & Galvan, 2008; Steinberg, 2008). However, risk-taking behaviours can often co-occur, and have serious consequences during adolescence, as it can increase risk for adverse health and social consequences (Flisher & Gevers, 2010), including the possibility of death or actual death (Reddy et al., 2010). Although specific types of risk-taking behaviours, like substance use and delinquent-type behaviours are prevalent in settings like Cape Town, South Africa (Morojele et al., 2013; Reddy et al., 2010), not much is known about the services that are available to adolescents who experience these problems.

To ensure that services match needs, there is a need for understanding the types of services and the service delivery process that could address these problem behaviours, as well as the contextual factors that impact on services in these settings (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). This thesis describes the identification and adaptation of an evidence-based intervention aimed at reducing substance use and delinquent-type behaviours. It also discusses how to detect adolescents in Cape Town, South Africa, who may benefit from receiving this intervention. The current chapter outlines what is already known about the extent of substance use and problems associated with substance use among adolescents in Cape Town with a focus on delinquent-type behaviour.

Prevalence of Substance Use

Adolescents' use of both illegal and legal substance use is widespread in South Africa, with studies finding the prevalence of substance use in the Western Cape Province to be amongst the highest in the country.

National studies of adolescent substance use. Household and school surveys provide some indication of the prevalence of substance use among adolescents in South Africa (see Table 1). Prevalence rates of recent (past-month) cigarette use were similar across large nationwide studies that used household surveys (Leoschut, 2009) and school surveys (Reddy et al., 2010), and past month prevalence ranged from 1.9% to 21.1%. Prevalence rates for alcohol use were slightly higher than cigarette use across these studies (Leoschut, 2009; Reddy et al., 2010), and ranged from 6.3% to 34.9%. The results of these nationally representative studies also indicated that illegal drug use was not as prevalent as alcohol and cigarette use, while cannabis was the most commonly-used drug (Leoschut, 2009; Reddy et al., 2010).

Although these large surveys provide some estimate of the prevalence rates of substance use among adolescents, they have their limitations. Findings of household studies have found lower levels of self-reported substance use than school studies, possibly as adolescents are less likely to report these behaviours if parents or other family members are in the house during data collection, which is often the case (Substance Abuse and Mental Health Services Administration, 2012). School surveys, on the other hand, have found higher levels of self-reported substance use among adolescents. While this may be partly due to the fact that adolescents feel more comfortable disclosing their risk behaviours with parents not in close proximity (Brener et al., 2006), there are also limitations with these survey methods. For instance, adolescents may over-report substance use in classroom settings with peers to be "cool" (Fendrich & Rosenbaum, 2003). Conversely, studies conducted in Cape Town have

indicated that adolescent substance users often have high absentee rates from school (Flisher, Townsend, Chikobvu, Lombard, & King, 2010; Plüddemann, Flisher, McKetin, Parry, & Lombard, 2010), and are possibly absent during data collection in school surveys.

Table 1. *Prevalence Studies of Adolescent Substance Use in South Africa*

Study	Year	Target Population	Results
South African Demographic and Health Survey (Department of Health)	2003	Adolescents aged 15-19	Past year cigarette smoking: Males-10% Females-5.4% Past year alcohol use: Males-18% Females-14%
National Household HIV Prevalence and Risky Survey of South African Children	2004	Adolescents aged 12-18	Lifetime alcohol use: 6.3% Lifetime drug use: 0.8%
National Youth Lifestyle Study (Leoschut)	2009	Adolescents aged 14-17	Lifetime cigarette smoking: 12-14 year olds-6.3% 15-17 year olds-16.2% Past months cigarette smoking: 12-14 year olds-1.9% 15-17 year olds-8.8% Lifetime alcohol use: 12-14 year olds-13.8% 15-17 year olds-28.3% Past month alcohol use: 12-14 year olds-1.9% 15-17 year olds-9.1% Past month binge drinking: 12-14 year olds-4.8% 15-17 year olds-10.7% Lifetime cannabis use: 12-14 year olds-0.8% 15-17 year olds-4.0% Past month cannabis use: 12-14 year olds-0.8% 15-17 year olds-3.8%
National Youth Risk Behaviour Survey (Reddy et al.)	2002	Grade 8-11 adolescents attending public school	Past month cigarette smoking: 21.1% Past month alcohol use: 31.8% Past month cannabis use: 9.1% Lifetime use drugs: 5.9% to 15.5%
National Youth Risk Behaviour Survey (Reddy et al.)	2008	Grade 8-11 adolescents attending public school	Past month cigarette smoking: 21.0% Past month alcohol use: 34.9% Past month cannabis use: 9.7% Lifetime use drugs: 11.5

This can contribute to lower levels of substance use being reported than is the case in reality. Despite their limitations, these types of studies show that high levels of substance use are reported among South African adolescents. They have not, however, examined the extent to which adolescents experienced problems with substances. This thesis aims to address this by more fully exploring the relationship between substance use and delinquent type behaviours (Chapter 2).

Adolescent substance use in the Western Cape. Adolescent substance use has been found to be particularly problematic in the Western Cape relative to the other provinces of the country (Reddy et al., 2010; Reddy et al., 2003). This is not surprising given that adolescent substance use mirrors similar patterns among adults (Herman et al., 2009). This province may be particularly afflicted by substance use for a number of reasons. First, it is the largest wine producing region in the country and has a long history of intergenerational alcohol problems related to the use of alcohol for the partial payment of farm workers (London, 1999). Second, with the dismantling of sanctions and the opening up of the country's borders from 1994, the busy port city of Cape Town (the capital of the province) became an attractive transhipment point for illicit drugs as well as an emerging drug market. This is compounded by the fact that the Western Cape has an entrenched gang culture that is strongly associated with drug trafficking and manufacture. This gang culture is relatively unique to this province (Parry et al., 2004).

The results of a number of other studies conducted with adolescents (see Table 2) corroborate these high levels of substance use in the Western Cape. Recent (past month) tobacco and alcohol use has been found to be higher than national levels (Morojele et al., 2013; Reddy et al., 2010). Smaller studies (Flisher, Parry, Evans, Muller, & Lombard, 2003; Plüddemann, Flisher, Mathews, Carney, & Lombard, 2008) found slightly lower proportions of alcohol use among adolescents in the Western Cape relative to other parts of the country.

Cannabis is the most widely used illicit drug among adolescents in the Western Cape, and the prevalence of this drug is higher here than in other parts of the country (Morojele et al., 2013; Plüddemann et al., 2008; Reddy et al., 2010). The Western Cape Province has also been associated with high levels of methamphetamine use, but study findings for prevalence rates have varied. For example, lifetime use was found to be between 2.0% in recent provincial studies (Morojele et al., 2013) and 14.9% in a smaller study (Plüddemann et al., 2008) conducted in Cape Town. The smaller studies mentioned above were conducted in the greater Cape Town area only, and Morojele et al. (2013) also found that in general, substance use was higher in the Cape Town Metropole than in other parts of the Western Cape.

In summary, various studies have shown that substance use among adolescents in the Western Cape, especially Cape Town, is high. Alcohol and cannabis use are particularly prevalent. Within the context of this province, it is important to identify factors that may influence substance use, as well as other risk-taking behaviours associated with substance use, as these may contribute to substance use behaviours and therefore it may be important to intervene with these factors. Studies conducted in other contexts have repeatedly identified adolescents' family members and peers as two factors that often influence these behaviours (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002; Feldstein & Miller, 2006). The question that remains is whether these factors also influence adolescents' problems behaviours in Cape Town, as this would suggest that an intervention that addresses substance use may also address these risk factors.

Table 2. *Prevalence Studies of Adolescent Substance Use in Western Cape*

Study	Year	Target Population	Results
Adolescent substance use prevalence and correlates (Flisher et al.)	2003	Grade 8 and 11 high school students	Past month cigarette use: 27% Past month alcohol use: 31% Past month cannabis use: 7%
Methamphetamine and other drug use (Plüddemann et al.)	2008	Grade 9 and 11 high school students	Past month alcohol use: Males-32.1% Females-24.5% Past month cannabis use: Males-21.1% Females-8.7% Lifetime methamphetamine use: Males-13% Females-12%
Youth Risk Behaviour Study (Reddy et al.)	2002	Grade 8-11 adolescents attending public school	Past month cigarette use: 37.7% Past month alcohol use: 53.0% Past month binge drinking: 33.9% Past month cannabis use: 10.9% Lifetime Mandrax use: 5.6% Lifetime methamphetamine use: 9.0%
Youth Risk Behaviour Study (Reddy et al.)	2008	Grade 8-11 adolescents attending public school	Past month cigarette use: 36.7% Past month alcohol use: 44.3% Past month binge drinking: 41.1% Past month cannabis use: 16.2% Lifetime Mandrax use: 10.4% Lifetime methamphetamine use: 9.0%
Western Cape School Survey (Morojele et al.)	2012	Grade 8-12	Past month cigarette use: 47.0% of 40.0% lifetime users Past month alcohol use: 66.0% of 35.1% lifetime users Lifetime binge drinking: 22.3% Past month cannabis use: 35.0% of23.6% lifetime users Lifetime Mandrax use: 2.8% Lifetime methamphetamine use: 2.0%

So far this chapter has indicated that substance use is a problem among adolescents in South Africa, and especially the Western Cape. In addition substance use problems do not occur in isolation, but often co-occur alongside other risk-taking behaviours. Research has shown that adolescent risk behaviours tend to cluster (Barrera, Biglan, Ary, & Li, 2001; Jessor, 1991; Jessor, 1992), and evidence of this is provided below.

Substance Use and Other Risk Behaviours

Studies conducted in Cape Town have shown that adolescent substance use is often associated with a number of other risk behaviours that may have negative consequences, including physical health, mental health and educational issues. In terms of physical health, studies have found that substance use is related to risky sexual activity, such as inconsistent condom use (Morojele, Brook, & Kachieng'a, 2006) and multiple partners (Palen, Smith, Flisher, Caldwell, & Mpofu, 2006), having been pregnant or made someone pregnant, or diagnosis with a sexually transmitted disease (Plüddemann et al., 2008), and increased risk for sexual assault (King et al., 2004). Second, substance-using adolescents may face additional physical risks, such as being the victims of physical violence (Morojele & Brook, 2006) and bullying (Reddy et al., 2010).

Third, an association between substance use and mental health issues, such as depression in adolescents, and anxiety among adolescent cannabis users (Plüddemann, Flisher, Mathews, Parry, & Lombard, 2010; Saban, Flisher, & Distiller, 2010) has been found in studies conducted in Cape Town. Finally, recent studies have also shown that substance use and educational outcomes may be correlated in the Western Cape, including non-attendance (Plüddemann et al., 2010) and school drop-out (Flisher et al., 2010). Another set of problem behaviours that may be related to substance use, but has received less research, is that of delinquent-type behaviours. This is especially important to address in a country like South Africa that has high levels of crime and violence.

Delinquent-type behaviours. Delinquent-type behaviours refer to criminal behaviours (theft, drug and alcohol crimes such as buying or selling drugs, property crimes and so forth) that learners may have not yet been adjudicated for (Petrosino, Turpin-Petrosino, & Buehler, 2003) as well as other problem behaviours defined as violent and aggressive behaviour (fighting, bullying, carrying weapons to school, buying/selling drugs,

gang involvement), vandalism and general delinquency (truancy and disobeying rules in general) that could possibly indicate disregard for social or legal rules (Huizinga, Esbensen, & Weiher, 1992; Piquero, Macintosh, & Hickman, 2002; Zhang, 2000). Problem behaviours among adolescent substance users may precede their involvement in the criminal justice system. Studies indicate that the prevalence of these behaviours is high in South Africa, especially in Cape Town, as outlined in the following section.

National studies of delinquent-type behaviours. Previous nationally representative surveys provide some estimation of prevalence rates for a number of delinquent-type behaviours among adolescents in South Africa (see Table 3). These were shown to be high, especially in larger surveys (Reddy et al., 2010; Reddy et al., 2003). Prevalence rates were highest for physical fighting (28.7% to 31.3%) and interpersonal violence (6.5% to 19.4%) (Leoschut, 2009; Reddy et al., 2010). Slightly lower prevalence rates of weapon-carrying (5.2% to 16.7% for carrying a knife, gun, panga or "kierrie") and gang membership (13.5% to 14.3%) were found in these surveys.

Delinquent-type behaviours in the Western Cape. The large school studies mentioned earlier (see substance use in the Western Cape) also found high prevalence rates of delinquent-type behaviours (see Table 4). These included rates of recent weapon-carrying (Leoschut et al., 2009; Reddy et al., 2010) that were higher than the national average (9.32% to 21.5%), although a smaller study indicated lower prevalence rates (1.6% to 11.2%) (Flisher et al., 2006). High levels of recent interpersonal violence and gang membership (11.8% to 14.5%) were also mentioned, with gang rituals being linked to illegal activities and violence (Leoschut 2009; Morojele et al., 2013; Reddy et al., 2010; Reddy et al., 2003). It

Table 3. *Prevalence Studies of Adolescent Delinquent-Type Behaviour in South Africa*

Study	Year	Target Population	National Prevalence Results
National Youth Lifestyle Study (Leoschut)	2008	Adolescents aged 14-17	Past year weapon carrying: 5.2% Past year physical fight: 28.7% Past year interpersonal violence: 6.5%
Youth Risk Behaviour Study (Reddy et al.)	2002	Grade 8-11 adolescents attending public school	Past month weapons carrying: 16.7% Past 6 months physical fighting: 30.2% Past 6 months gang membership: 14.3% Past 6 months assaulted girlfriend/boyfriend: 13.2% Past month weapons carrying: 15.1%
Youth Risk Behaviour Study (Reddy et al.)	2008	Grade 8-11 adolescents attending public school	Past 6 months physical fighting: 31.3% Past 6 months gang membership: 13.5% Past 6 months assaulted girlfriend/boyfriend: 19.4%

also seems that there has been an increase in these behaviours in recent years, as indicated by the most recent youth survey (Reddy et al., 2010). Self-reported prevalence of other delinquent-type behaviours such as theft (Morojele et al., 2013) and bullying (Flisher et al., 2006; Morojele et al., 2013) were also high (10.2% to 52%), while levels of property damage (5.8%) in the past year were reported as reasonably low in the Western Cape (Morojele et al., 2013), although a higher proportion of adolescents from the Cape Metropole in comparison to the rest of the Western Cape reported this behaviour in the past year.

Part of this thesis is concerned with examining the relationship between substance use and delinquent-type behaviours.

Table 4. *Prevalence Studies of Adolescent Delinquent Type Behaviour in Western Cape*

Study	Year	Target Population	Results
National Youth Lifestyle Study (Leoschut)	2009	Adolescents aged 14-17	Past year weapon carrying: 9.32% Past year physical fighting: 36.4% Past year interpersonal violence: 8.5%
Youth Risk Behaviour Study (Reddy et al.)	2002	Grade 8-11 adolescents attending public school	Past month weapons carrying: 20.2% Past 6 months physical fighting: 30.9% Past 6 months gang membership: 12.7% Past 6 months assaulted girlfriend/boyfriend: 13.5%
Youth Risk Behaviour Study (Reddy et al.)	2008	Grade 8-11 adolescents attending public school	Past month weapons carrying: 21.5% Past 6 months physical fighting: 33.9% Past 6 months gang membership: 14.5% Past 6 months assaulted girlfriend/boyfriend: 13.6%
Western Cape School Survey (Morojele et al)	2012	Grade 8-12	Past year bullying: 10.2% Past year physical fighting: 14.2% Past year gang membership: 11.8% Past year stolen anything: 18.5% Past year damage/destroy property: 5.8%
Injury-Related Behaviours (Flisher et al.)	2006	Grade 8, 9 and 11 high school students	Past year weapon (knife) carrying: Male adolescents-10.3-11.2% Female adolescents-1.6-1.3%
Dropout and Substance Use (Flisher et al.)	2008	Grade 9 and 11 high school students	Past year bullying: Male adolescents-52% Female adolescents-37%

Cross-sectional research shows that substance use is often significantly associated with delinquent-type behaviour in adolescence (Ferguson & Cricket Meehan, 2010; Goebert, Caetano, Nishimura, & Ramisettymikler, 2004; Kuntsche, Knibbe, Engels, & Gmel, 2007; Swahn & Donovan, 2005). Delinquent-type behaviour seems to be prevalent, but is under-researched in relation to substance use in South Africa. Of the few studies that have investigated this relationship, findings indicated that substance use is related to drinking and

driving (Reddy et al., 2010), and violence (Brook et al., 2006). In addition, methamphetamine use has been linked to aggression (Plüddemann et al., 2010).

It is understandable that these studies utilised cross-sectional study designs, because they are relatively quick and easy to implement. However, they only examine behaviour at one point in time, and therefore cannot say anything about causation (Feldstein & Miller, 2006) or measure the progression of risky-type behaviours over time. It is important to understand how these behaviours develop, as an understanding of the trajectory of them may assist in identifying time points where interventions to address these behaviours could be effective. Such interventions are important because if these behaviours continue into adulthood, they could have a number of negative consequences.

Determinants of Substance Use and Other Risk Behaviours

A number of risk factors have been identified that seem to exist for both substance use and delinquent-type behaviours. These include individual behaviours, including truancy (Hallfors, Cho, Brodish, Flewelling, & Khatapoush, 2006); parenting and family factors, such as poor supervision and attachment (Feldstein & Miller, 2006); environmental stressors (Brook et al., 2006; Brook, Whiteman, & Balka, 1997); and involvement with negative peer groups (Dishion, Véronneau, & Myers, 2010; Fishbein & Pérez, 2000). Similarly, prior research has identified a number of shared factors that protect against substance use and delinquent behaviours such as academic performance (Feldstein & Miller, 2006), school involvement, positive family and peer relationships (Arthur et al., 2002; Feldstein & Miller, 2006) and religious affiliation (Arthur et al., 2002). Extensive literature exists on the influence of parents and peers, which will be discussed below.

Previous South African studies have identified parental factors as significant predictors of substance use, as adolescents often model their behaviour on that of their parents. If parents or guardians used substances, adolescents were also more likely to report

engaging in this behaviour, such as tobacco (Reddy et al., 2010) and other drug use (Brook, Morojele, Pahl, & Brook, 2006; Morojele et al., 2002). However, not much research has been conducted in Cape Town, and therefore not much is known about the role that parents play in adolescents' problem behaviours in this context. Only one study was identified where negative family relationships and stress in the family increased adolescents' risk of tobacco and alcohol use. The study findings also indicated that parents could protect adolescents against substance use if they controlled, monitored and set limits on their children's behaviour (Amoateng , Barber, & Erickson, 2006).

Associating with peers who engage in substance use has also been shown to have an influence on adolescents' behaviours. Studies conducted in other parts of South Africa found peer smoking, alcohol use and other substance use to be significantly associated with substance use among adolescents (Brooks et al., 2006; Morojele et al., 2002). Similarly, a study conducted in Cape Town found that adolescents whose peers drink alcohol were more likely to report having been drunk in their life (Parry, Morojele, Sabana, & Flisher, 2004).

These findings are in keeping with studies from developed countries that suggest that both effective parenting and avoiding relationships with delinquent peers can be successful in preventing or reducing adolescent problem behaviours (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006). This research indicates that it may be necessary to take family and peer relationships into account when intervening with adolescents who engage in substance use and delinquent-type behaviour. While parenting and peers can have a negative influence on adolescents, they can also have a positive impact on their behaviour, and the involvement of parents should be considered when planning interventions as it can affect adolescent behaviour outcomes.

These findings suggest that services for these adolescents should include immediate family members and should teach adolescents how to avoid or resist negative peer pressure.

Interventions for adolescent substance use that have included family members have shown positive effects. For example, a study with substance-using Hispanic adolescents in the USA who also displayed other problem behaviours found that brief strategic family therapy significantly decreases adolescents' self-report of cannabis and family's reporting of conduct problems and delinquency (Santisteban et al., 2003). Another US study found that the inclusion of a parent component to an evidence-based adolescent intervention led to a significant decrease in cannabis use and dependence (Winters, Fahnhorst, Botzet, Lee, & Lalone, 2012). In terms of negative peer influence on adolescent behaviour outcomes, previous intervention studies (Dishion, Poulin, & Burraston, 2001) have addressed the issue of peer deviancy, and found that increased contact with deviant peers had a negative effect on problem behaviours.

Long-Term Consequences Associated with Substance Use Disorder and Delinquent Adolescents

The current study aims to assist in identifying and adapting an intervention that will prevent these problem behaviours from progressing. If substance use and delinquent-type behaviours escalate, it will probably be more difficult to treat these problems if they become severe and chronic. The kinds of areas that these problem behaviours can affect if left untreated include criminal behaviour as well as physical and mental health (Lubman, Hides, Yücel, & Toumbourou, 2007).

Longitudinal studies conducted in the USA indicate that substance use in adolescence is predictive of continued problematic substance use in adulthood (Merline, Jager, & Schulenberg, 2008; Zucker, 2008). It is also predictive of further delinquent-type and criminal behaviours, as young substance users have been found to commit crimes such as theft to finance their drug habit (Leoschut & Bonora, 2007). Research shows that being part of the judicial system is associated with negative functioning in adulthood, and thus it seems

that services should try to intervene on these problem behaviours before substance-using youth are adjudicated for criminal behaviour.

It is important to intervene early with delinquent adolescents as those who have been adjudicated have been found to have lower socio-economic standing in adulthood (Bernburg & Krohn, 2003; Corneau & Lanctôt, 2004; Lanctôt, Cernkovich, & Giordano, 2007). Studies also found that they that often continue to be involved in criminal activity during adulthood (Bernburg & Krohn, 2003; Bernburg, Krohn, & Rivera, 2006), and inevitably, the criminal system (Gatti, Tremblay, & Vitaro, 2009). Adolescents who have been adjudicated have been found to have more psychiatric problems, such as depression and low self-esteem in adulthood (Corneau & Lanctôt, 2004; Lanctôt et al., 2007). They are also more likely to have problematic or violent interpersonal relationships (Lanctôt et al. 2007). Not only are substance-using adolescents more likely to commit crime and spend time in jail, but delinquent adolescents are also more likely to continue to use substances. For example, one study (Corneau & Lanctôt, 2004) found that approximately 12% of institutionalised adolescents in their study needed drug treatment as adults.

Both substance use and delinquent-type behaviour therefore can have negative, often serious, consequences for adolescents in the long-term if their engagement in this behaviour progresses. Adolescents who engage in both risk-taking behaviours seem to be especially at risk for negative effects later on in their lives. Attempting to treat these problems later in life when they are more entrenched, may place even more strain on an already resource-burdened context (Flisher et al., 2013) such as Cape Town, South Africa.

This thesis aims to describe the relationship between substance use and delinquent-type behaviour, but also the trajectory of how this behaviour develops, with substance use as a possible predictor. The trajectory of delinquent behaviour can only be measured by longitudinal studies, of which there is paucity in South Africa, as well as in similar

developing countries. This study attempts to examine this temporal relationship in Chapter 2, by using data from a longitudinal study.

The chapter thus far has indicated that substance use and delinquent-type behaviours are prevalent in the Western Cape. In addition, these risk-taking behaviours seem to be associated in some way. While involvement in these two behaviours can have serious consequences, there is a dearth of research on the types of services available for adolescents who exhibit these double-risk behaviours in this setting. The next section will explain why an integrated intervention may be useful, followed by a brief discussion of these services in the Western Cape.

The Importance of Addressing Substance Use and Other Co-Occurring Risk Behaviours in an Integrated Manner

There is some evidence available that points to the value of interventions that target substance use together with consequential risk behaviours. Systematic reviews have recently highlighted that interventions that focus on multiple risk behaviours can be effective. For example, one recent systematic review looked at substance use and sexual risk behaviours. While only a few interventions were identified and included in this study, generally those that included the individual, peers, family, school and community in addressing substance use and sexual behaviour were more effective (Jackson, Geddes, Haw, & Frank, 2012). Another review found that evidence-based interventions for substance use and aggression also positively affected other outcomes, such as mental health. This review also recommended that multiple domains are considered when intervening with adolescents, but acknowledged that it may be difficult to adapt in certain settings (Doran, Luczak, Bekman, Koutsenok, & Brown, 2012).

While this research appears promising, the majority of the studies included in the systematic reviews were conducted in developed countries such as the USA, with only two

that included South African studies. The settings that these behaviours occur in may very well influence their behaviours, as Jackson's (2010) systematic review hinted at above. The context that adolescents live in therefore seems to be important in shaping problem behaviour. Different risk and protective factors within their environment affect adolescents, and the more risky an environment, the more likely adolescents are to engage in substance use and other problem behaviours. Therefore problem behaviours are more likely in urban, disadvantaged resource-poor settings where issues such as poverty, crime and violence and drug availability are high. This is the case in a number of Cape Town communities (Brook, Rubenstone, Zhang, Morojele, & Brook, 2011; Van der Merwe, Dawes, & Ward, 2012).

Need for Intervention

It makes sense to provide integrated interventions to adolescents that address both their substance use and delinquent-type behaviours. Not only will this treat both problem behaviours, but it also means that services are likely to be easier for adolescents to access (Smith, 2013). Few interventions are available for adolescents who have problems with substance use in Cape Town. These early intervention services would be valuable in preventing the progression of substance use. Since it is also not a good use of resources to duplicate services that may already be available in the current study, it is useful to identify the type of existing services in Cape Town, and what types of problems they address.

Substance use is generally understood to occur along a progressive continuum from no use to severe disorder, with the recommended level of treatment matched to the severity of substance use. At the first level of service, universal prevention is appropriate for those who do not engage in substance use or only use very occasionally, in an attempt to prevent further use. The City of Cape Town's recent policy position on substance use (City of Cape Town, 2011) states that it aims to provide evidence-based prevention services that will build coping skills, enhance knowledge on substance use and provide information on services. It has

recently identified an evidence-based programme (Strengthening Families) that addresses not only substance-using adolescents, but also their parents, and is currently being piloted in Cape Town (Harker Burnhams, Townsend, Dada, & Plüddemann, 2012). However, this service is not available on a large scale yet, and other prevention programmes have varied in their quality. In addition, prevention programmes are not suitable for adolescents who have already started to engage in substance use.

Adolescents who are already involved in substance use and may be engaging in delinquent-type behaviours as a result, have progressed further along the continuum of substance use disorders, and may need some form of intervention to reduce their substance use involvement. The Western Cape region has a limited range of intervention options available for adolescents who engage in these problem behaviours and existing services are mainly for the most severe cases (Parry, 2005). The majority of services are clinical services that provide intensive treatment and rehabilitation, which are unnecessary for less severe cases of substance use. As a possible response to the limitations of existing intervention and treatment services, The City of Cape Town (City of Cape Town, 2011) has started to implement adolescent-centred substance use treatment at outpatient centres and there are a very small number of adolescent-specific inpatient treatment centres (Department of Social Development: Western Cape Substance Abuse Unit, 2011). However, these are aimed at adolescents who have severe substance use disorders. There are therefore limited intervention services for adolescents with mild-to-moderate substance use problems who may not need formal treatment. In addition, none of these services address delinquent-type behaviours, especially in an integrated manner.

Services that can systematically identify these adolescents and provide an appropriate intervention to reduce these behaviours have a good chance of success in working with these adolescents. The American Academy of Paediatrics' Committee on Substance Abuse

recommend that adolescents who screen positive for even a moderate risk of substance use or have just begun to use alcohol or drugs, be provided with a brief intervention (American Academy of Pediatrics & Committee of Substance Use, 2011). Intervening early with this population can be valuable, as it may assist in reducing the progression of substance use in certain adolescents. It can also encourage substance-using adolescents to reduce risks that are associated with substance use (Lubman et al., 2007) such as delinquent-type behaviours which are especially pertinent in the Western Cape.

An intervention framework that has previously been used to explain the identification and management of substance use in adolescent populations is known as SBIRT: Screening, Brief Intervention and Referral to Treatment (Levy & Knight, 2008; Yuma-Guerrero et al., 2012). Not only can this framework address gaps in services for adolescents who do not yet have a severe substance use disorder, but it may also be able to assist with the uptake of treatment services among adolescents with moderate to severe problems who do not respond to BI because it has a referral to treatment arm. This framework is described below.

A Framework for Providing Adolescent Services: Screening, Brief Intervention and Referral to Treatment (SBIRT)

The SBIRT framework offers a guideline for the provision of screening and early, brief interventions as well as referral to treatment if needed for substance use disorders. A brief description of the typical elements included in this model will now be provided:

Screening. The model recommends that universal screening (Levy & Knight, 2008) is conducted. In other words, all adolescents within a specific setting are screened for substance use, and not just those that are suspected of using substances. There are a number of screeners that have been identified for use with adolescents (Mitchell, Gryczynski, O'Grady, & Schwartz, 2013), and this will be discussed further in Chapter 3. The outcome of screening is that those adolescents who screen positive for problem substance use, are assessed further (to

be presented in Chapter 4) and receive a brief intervention (Kaminer & Winters, 2011). It is recommended that those who screen positive for severe substance use are referred to treatment. However, in settings where there are few services available, coupled with a long waiting list, brief intervention may be offered while adolescents wait to get into more intensive treatment (Babor et al., 2011). Adolescents who screen negative for substance use (meaning they have not started using substances) generally receive positive reinforcement for not engaging in problem behaviours, as well as psycho-educational material or advice not to start these behaviours (Kaminer & Winters, 2011).

Brief Interventions (BI)

There is accumulating empirical support that brief interventions (BIs) are a viable intervention option for adolescents with problem behaviours. While recent studies have questioned the effectiveness of BIs for reducing substance use among adults, these studies were conducted in primary health care settings with very brief, single sessions for heavy substance users (Roy-Byrne, Bumgardner, Krupski, Dunn, Ries, Donovan, West, Maynard, Atkins, Graves, Joesch, & Zarkin, 2014; Saitz, Palfai, Cheng, Alford, Bernstein, Lloyd-Travaglini, Meli, Chaisson, & Samet, 2014). This potentially speaks more to the delivery of such interventions than their lack of effect, and research on identifying and intervening with adolescents remains an important area (Hingson & Compton, 2014), as it can assist in preventing the progression of the severity of substance use. Studies have also found BIs to be effective for adolescents who screen positive for substances, and are found to be have problematic use after a more thorough assessment (Erickson, Gerstle, & Feldstein, 2005; Grenard et al., 2007; Tait & Hulse, 2003; Wachtel & Staniford, 2010).

By definition, these interventions are brief, lasting between one session (Moyer, Finney, Swearingen, & Vergun, 2002) and five sessions (Tevyaw & Monti, 2004; Winters, Leitten, Wagner, & O'Leary Tevyaw, 2007). The duration of each session is somewhat

dependent on the setting that the BI is delivered in (Mitchell et al., 2013). Their application for adolescents has occurred in paediatric clinics (Levy & Knight, 2008), juvenile detention systems (Dembo et al., 2013) and school assistance programs (Winters et al., 2007), usually in developed country settings. They are also seen as relatively cost-efficient, due to their brevity, and can also be implemented somewhat easily as a wide-range of professionals can deliver these interventions (Tanner-Smith, Wilson, & Lipsey, 2012).

BIs for adolescents can act as stand-alone intervention options, be used to engage youth to participate in more intensive treatment, as a substitute for more extended treatment for persons seeking assistance but placed on waiting lists, and to facilitate referrals for additional specialised treatment (Dennis et al., 2004; Tait & Hulse, 2003) (This step in the framework is more thoroughly described in Chapter 5). This framework does not specify the type of intervention model that should be adopted. However, there should be some evidence that the brief intervention that forms the central part of the SBIRT model is effective. More detail on what constitutes EBPs is provided in the next section.

Referral to Treatment

If adolescents meet the diagnostic criteria for severe substance use disorder (Substance Abuse and Mental Health Services Administration, 2011), cannot or do not want to complete their BI sessions for some reason, or have a poor response to a brief intervention, namely they continue to use substances (Levy et al. 2007), they should be referred on for more intensive treatment. Referral to treatment will mainly be for substance abuse treatment, but adolescents may also need referral for other problems associated with substance use, such as physical and mental health problems (American Academy of Pediatrics & Committee of Substance Use, 2011). A limitation of the implementation of this framework in resource-poor context is the lack of services for adolescents in general, including substance use (Flisher et

al., 2013). Referral to treatment could therefore be challenging in such settings if there are limited service options.

Strong evidence exists to support the use of this framework (SAMSHA, 2011). It has mainly been used in primary care settings, such as emergency rooms and doctors' rooms. However, this can be somewhat challenging as health professionals often lack the time and training (Levy et al., 2007) to administer these services. There are a number of systematic reviews that show that screening, brief intervention and referral to treatment is effective on risky drinking (Mitchell et al., 2013; Yuma-Guerrero et al., 2012). However, previous literature that refers to application of the SBIRT model with adolescents has been conducted in developed countries only, so it is unknown whether the model can be tailored to suit the context of developing country settings. Subsequently, this study focuses on the different aspects of this model, and whether it is applicable with adolescents in this context.

The use of screening (and assessment if necessary), brief intervention and referral to treatment is viewed as a comprehensive and integrated approach for the evaluation of and intervention with substance use problems. These services have been shown to be associated with at least short-term improvements on substance use behaviours, for both adults (Babor et al., 2011) and adolescents (Mitchell et al., 2013; Tanner-Smith et al., 2012). Some of the additional benefits to using these services within the SBIRT framework is that it may take substantially less time than traditional treatment, as specific behaviours are targeted that are viewed as problematic and related to substance use and the services can occur in non-traditional substance use settings (Substance Abuse and Mental Health Services Administration, 2011). In resource-poor communities, services that take less time and can be provided outside of healthcare settings may work very well.

Evidence Based Programmes (EBPs)

EBPs can be recognised by a number of characteristics. Firstly, they are scientifically rigorous and are supported by several randomised controlled trials that show that the EBP has a positive effect on the targeted behaviour outcomes (Iowa Consortium for Substance Abuse Research and Evaluation, 2003; Khagram & Thomas, 2010). One can therefore be confident that evidence-based programmes demonstrate efficacy because they have been thoroughly tested in so-called ideal circumstances with defined samples, psychometrically sound measures and data collection, and rigourous data analysis procedures (Flay et al., 2005). This study aims to make use of this criterion by identifying a brief intervention that has been shown to be efficacious by conducting a systematic review of experimental studies (to be presented in Chapter 3). However, efficacy does not always translate into practice in real-world settings, which is where the gap between research and practice often occurs (Glasgow, Lichtenstein, & Marcus, 2003). To be effective, EBPs should be disseminated and shown to influence outcomes outside of the original study (Iowa Consortium for Substance Abuse Research and Evaluation, 2003) in a broadly defined population (Glasgow et al., 2003). Effectiveness studies focus on important factors such as the quality of implementation, which will affect intervention outcomes when delivered under more realistic conditions where it is not possible to control for all variables. Furthermore, issues regarding program fidelity and adaptation as intervention programmes are taken into account as these to may contribute to potential dissimilarity in the outcomes of interest (Flay et al., 2005).

It is therefore important that EBPs also work in real-word settings, and for that to occur they need to consider the context that they are delivered in. There are specific factors that exist in the greater Cape Town area that may make the implementation of EBPs challenging. For example, a recent report identified certain challenges of implementing evidence-based programmes in this context (Myers, Harker, Fakier, Kader, & Mazok, 2008).

As an area that is culturally diverse, not only are different languages spoken, but the various ethnic backgrounds mean that individuals have various indigenous beliefs. Evidence-based programmes may need to be translated, and these indigenous beliefs need to be taken into account.

In addition, the selected programme also needs to be feasible in terms of cost, training needed to implement the programme and organisational staff, and the target population's attitude towards it (Iowa Consortium for Substance Abuse Research and Evaluation, 2003). There is a gap in existing literature on this type of study with adolescents in developing countries, and therefore Chapter 7 specifically addresses how the selected evidence-based brief intervention can be tailored for the specific context, as well as putting forward recommendations for implementing the selected intervention.

Not many EBPs for substance-using adolescents have been tested in Cape Town. There are two school programmes that were developed in the USA and tested locally in this context *(HAPS* and *Healthwise Project)*. While they did address substance use, delinquency (Lai et al., 2013) and sexual behaviours, both the *HAPS* (Karnell, Cupp, Zimmerman, Feist-Price, & Bennie, 2006) and *Healthwise Project* (Palen, Smith, Caldwell, Mathews, & Vergnani, 2009) are primary prevention EBPs.

Therefore, uncertainty still exists about if evidence-based BIs for substance-using adolescents who display delinquent-type behaviours exist that can be translated to use in this context. This study aims to address this gap by systematically identifying adolescents with these problems, and developing an appropriate evidence-based brief intervention that addresses both of these issues and has been tailored to the specific context.

Significance of Thesis

The introduction highlighted the prevalence of substance use and delinquent-type

behaviours in the greater Cape Town area, and more broadly, in South Africa. Clearly substance use and delinquent-type behaviours are problematic in the Western Cape, but as indicated, research has often focused on the relationship between adolescent substance use and sexual risk behaviour due to the high HIV prevalence in South Africa. Due to this focus, there has been a lack of research conducted on the relationship between substance use and delinquent-type behaviours in South Africa. This thesis aims to address this gap by examining the association between these two behaviours at different time points. It also will investigate the trajectory of these behaviours over time. The results of this study can assist in knowing when adolescents are most at-risk for these behaviours, and which type of adolescents may be most vulnerable. This may be useful when planning service provision.

As not much is known about screening processes for identifying substance use in the greater Cape Town area, this thesis will establish the psychometric properties of various tools for identifying at risk adolescents in Cape Town (Chapter 3). It is important to determine the reliability and validity of the selected instruments to ensure that the measurement of target behaviours occur consistently in this setting. The results of this study could add to practical knowledge in this area, by providing information on the selection of appropriate screeners to use with adolescents in this setting.

Second, another output from this thesis will be the development of a comprehensive assessment instrument that measures both behaviours in detail (Chapter 4). Since there is currently no such instrument being utilised in this setting, it will be useful to have one available. A comprehensive assessment measure could be used by service providers to determine which adolescents may benefit from a brief intervention, and which will require more intensive services. In addition, this chapter also summarised the need to identify evidence-based, brief intervention programmes which will be implemented within the SBIRT model.

Third, an evidence-based brief intervention for both problem behaviours will be identified (Chapter 5) and tailored for this population utilising Bronfenbrenner's ecological model (Chapter 6) and the Consolidated Framework for Implementation Research (Chapter 7). Finally, the SBIRT framework includes referral to treatment, and while this is not the main focus of the study, it can at least indicate gaps in service provision for adolescents, and put forward some recommendations for stakeholders to increase the uptake of services.

This chapter has indicated that there seems to be a lack of existing services at this level that can address the dual problems of substance use and delinquent behaviour simultaneously and are evidence-based. Screening tools, assessment measures and the tailored evidence-based brief intervention identified in this study can be used by clinicians and policy makers to guide service development. Recommendations based on the study's findings can be made on the practical aspects and the process of developing and adapting future intervention for adolescents, such as the length, setting, cultural adaptations and optimal use of resources in Cape Town. In addition, service providers at non-governmental and community-based organisations who work with adolescents who experience these problem behaviours may also be able to adopt the brief intervention. Not only will an evidence-based intervention be available, but uniform tools to measure these behaviours will also be accessible, allowing the measurement of behaviours before and after the intervention has been delivered.

In summary, the results of this study could have significantly positive implications for adolescent services in the Cape Town context, as a brief intervention will be identified that is fully adapted and can possibly be pilot-tested in their setting. In addition to an adapted evidence-based brief intervention, the study will also produce screening and assessment instruments and a brief intervention that will be ready for implementation and use in the Cape Town context.

Structure of the Thesis

In total, six studies were conducted to make up the thesis. The aims of these studies are consecutive and are outlined below (see Figure 1 for an overview of the studies):

1) Study I: To examine the association between substance use and delinquent-type behaviours among adolescents in Cape Town.
2) Study II: To identify suitable screening tools for the identification of adolescents with substance use problems and delinquent-type behaviours.
3) Study III: To test and adapt assessment tools for those adolescents who screen positive for substance use and delinquent-type behaviour.
4) Study IV: To conduct a systematic review and meta-analysis to identify an evidence-based brief intervention that can address both substance use and delinquent type behaviour among adolescents.
5) Study V: To test the identified brief intervention in terms of ecological validity by obtaining adolescents and service providers' perspectives on problem behaviours and contextual factors (such as intra- and interpersonal relationships, and broader setting) that may affect the delivery of the brief intervention among adolescents in Cape Town communities.
6) Study VI: To elicit adolescents and service providers' responses to the proposed intervention and use these responses to modify the brief intervention for adolescents from disadvantaged communities in Cape Town. This study also seeks to provide recommendations for the delivery of the intervention, based on the feedback of participants.

Together with the introduction (Chapter 1), the above-mentioned studies are organised into chapters (2-7) which constitute the thesis. A general discussion and conclusion (Chapter 8) then completes this thesis.

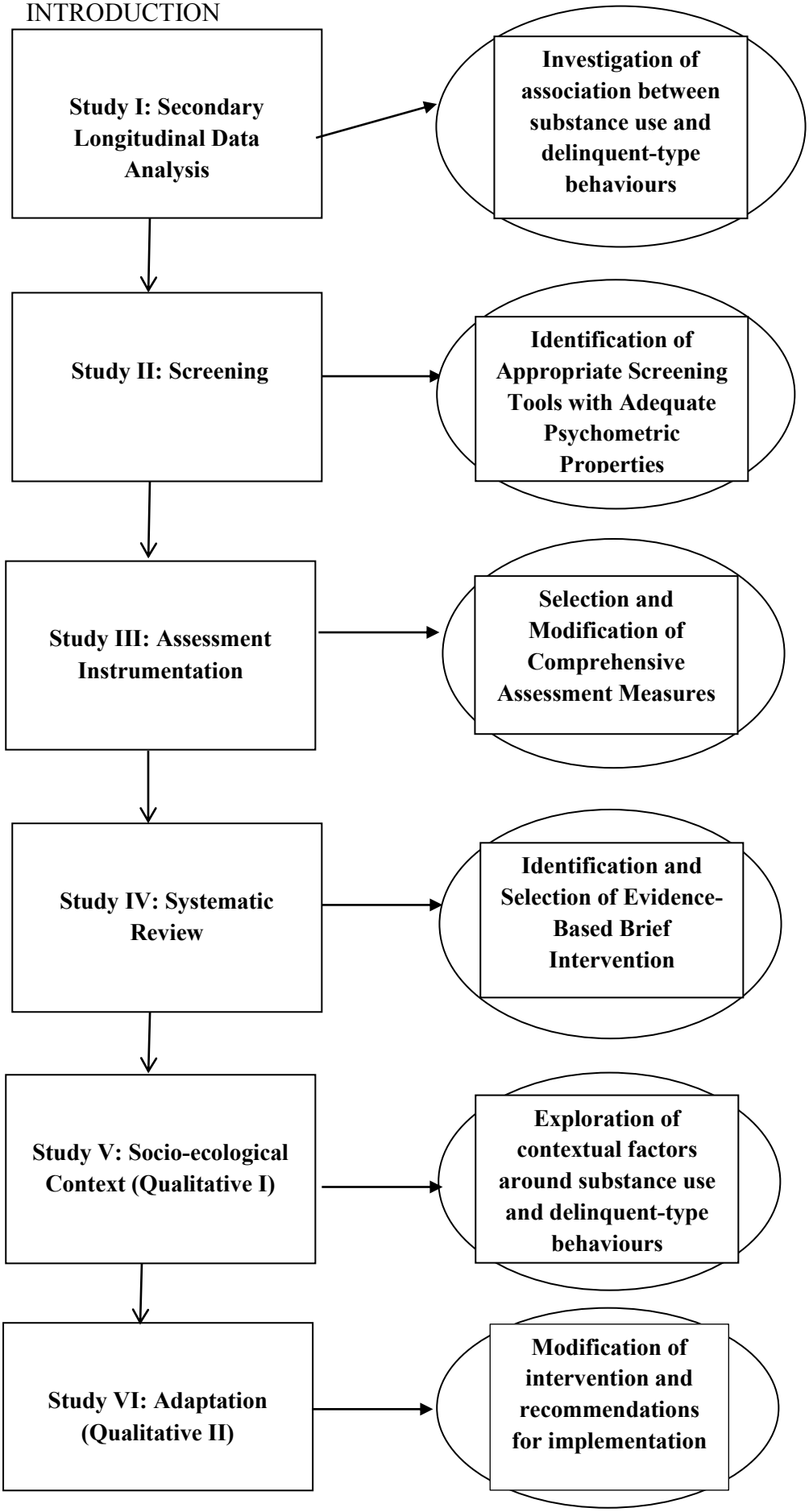

Figure 1. Diagram of methods and outcomes of studies I-VI.

Ethical Considerations

All of the studies that form part of this thesis were submitted as one study protocol. Ethical approval for this protocol was obtained from the Human Research Ethics Committee at the University of Cape Town (Faculty of Health Sciences). Approval was requested each year, as amendments were made to study instruments before data collection for each study commenced. The Western Cape Education Department granted ethical approval for interviews conducted with their staff members (Study V and VI). This was not necessary for data collected from adolescent participants because although they were all high-school students, the data was collected out of school contact time at community settings. Active parental consent was collected for each adolescent under the age of 18, and adolescents provided assent for their participation in the various studies. These procedures will be discussed in more detail in the relevant chapters.

Chapter 2 (Study I)

The Relationship between Substance Use and Delinquency among High-School Students in Cape Town, South Africa

As highlighted in Chapter 1, substance use and delinquent-type behaviours often co-occur. Richard Jessor (Jessor, 1991; 1992) proposed a theory for understanding how various problem behaviours cluster together, as part of a risk behaviour syndrome. The problem behaviours that are most closely clustered together are those that can have negative consequences on adolescents' lives, including substance use and delinquent-type behaviour. This model shows that the co-occurrence of these behaviours can be understood by shared risk and protective factors, which can be biological, socio-economic, environmental, personality, and behavioural factors (Jessor, 1991). According to the theory, the greater the risk factors and the less the protective factors in an adolescent's life situation, the greater the likelihood of an adolescent's involvement in problem behaviour.

There is extensive evidence from developed, but much less from low-to middle-income countries, to suggest that these two problem behaviours occur together. Findings from a number of studies conducted in developed countries such as the USA, and Switzerland, support Jessor's (1991; 1992) notion that substance use and delinquent-type behaviours co-occur. An association between alcohol, drug use and sometimes tobacco and delinquent-type behaviours including engagement in physical fights (Ferguson & Cricket Meehan, 2010) bullying (Kuntsche et al., 2007), carrying weapons (Ferguson & Cricket Meehan, 2010; Goebert et al., 2004; Lowry et al., 1999; Swahn & Donovan, 2005) and property damage or theft (Lowry et al., 1999) have been found in a number of studies.

Very few studies have been identified that examined this relationship in developing countries. A large survey as well as a few smaller studies in Cape Town have found that if adolescents engage in one of the targeted risk behaviours they are also likely to engage in the

other, such as drinking and driving (Morojele et al., 2002; Reddy et al., 2010), being rebellious and using drugs (Brook et al., 2006; Morojele et al., 2002) and substance use and aggressive or violent behaviour (Brook et al., 2006; Plüddemann et al., 2010). However, the exact nature of this relationship is unclear.

While the above-mentioned studies have added to the knowledge base on the relationship between adolescent substance use and delinquent-type behaviours, a major limitation is that all of these studies are cross-sectional in nature (Ferguson & Cricket Meehan, 2010; Lowry et al., 1999; Morojele et al., 2013). The reliance on such designs is understandable, because it enables data to be collected on a large number of participants at one time quickly. However, a disadvantage of this study design is that it does not allow for causal interpretations to be made about the behaviours (Feldstein & Miller, 2006). In addition, it cannot confirm anything about the direction of the relationship between substance use and delinquent-type behaviours.

To fully understand the trajectory of these problem behaviours, longitudinal research needs to be conducted, as this allows for investigation of the cross-time relations among the variables. It allows conclusions to be drawn about the order of the relationship at different time periods, and the cause and effect relationships between variables (D'Amico, Edelen, Miles, & Morral, 2008)

There have been a few longitudinal studies conducted in a number of high-income countries such as the Netherlands (Landsheer & Van Dijkum, 2005) and the USA (Mason et al., 2010) that found that for males, engaging in delinquent behaviours in early adolescence was significantly associated with delinquency in later adolescence. An earlier study (Moffitt, 1993) found that some adolescents who engage in delinquent-type behaviours will continue this behaviour and progress to criminal behaviour. Similar trajectories have since been found in other studies (Odgers et al., 2008; Piquero, Farrington, Nagin, & Moffitt, 2010).

Longitudinal research to measure problem behaviours has been taking place in developed countries for a number of years. For example, Monitoring the Future has been running in the USA since 1975 (Johnston, O'Malley, Bachman, & Schulenberg, 2013). This type of research has been less common in developing countries such as South Africa. The Birth to 20 Study is a longitudinal study of child health in South Africa that includes substance use and violent behaviour to a small degree, but was not conducted in the Western Cape (Richter, Norris, Pettifor, Yach, & Cameron, 2009; Richter, Norris, & Wet, 2007). Having such a longitudinal study could provide more insight into how various risk behaviours develop, and could inform the development of interventions to prevention the development of emerging problems among adolescents. Since longitudinal studies can shed light on the progression of these problem behaviours, they may be useful to identify points of transition where the relationship is strongest, and where problem behaviour is predictive of other problem behaviour. Adolescents who show early emerging problems of substance use may benefit from being screened for problematic use and an early intervention that also addresses delinquent-type behaviours at these specific transition points. Early research (Stouthamer-Loeber & Loeber, 1988) postulated that understanding delinquency and identifying its accompanying risk factors can also assist in understanding the course of, and contributors to, crime. This is especially relevant in a country like South Africa where levels of violent crime are high. Therefore understanding the developmental trajectory of these behaviours in a violent society, as well as individual differences in these pathways, is important as such trajectories can reveal at what stage is best to intervene to prevent the escalation of these problem behaviours. Early identification of such adolescents means that they can receive the appropriate services before the behaviour progresses. Early intervention may prevent adolescent substance use from progressing into a severe substance use disorder.

It can also play a role in preventing delinquent-type behaviour from escalating into criminal activity.

South Africa is different to developed countries in a number of ways. First, there are much higher levels of crime than many of the high-income countries where previous longitudinal research on delinquency and substance use has been conducted. In addition violent behaviour and crime is more normalised in this country, especially among those who have been socialised in negative conditions and socially excluded, and make up a significant proportion of South Africa's population (Pelser, 2008). The most recent statistics indicated that violent crime is much higher in South Africa at 1180.3 per 100 000 people (South African Police Service, 2013) than in developed countries such as the USA (386.9 per 100 000 (Federal Bureau of Investigation, 2013). For example, the homicide rate in South Africa is estimated to be 33.8%, one of the highest in the world, in comparison to the estimated rate of five percent in the USA (United Nations Office on Drugs and Crime, 2011).

Aim of the Study

Since *both* substance use and delinquent-type behaviours are prevalent in this context, the aim of this chapter is to assess the relationship between substance use and delinquent-type behaviours at different time periods among adolescents in Cape Town as well as the trajectory of delinquent-type behaviours in adolescents. A secondary aim is to identify which risk factors predict the initiation of these behaviours among the target population. This is important as early detection of at-risk adolescents will assist with screening procedures (Chapter 3) and early intervention with adolescents who possibly have substance use problems. This addresses the aim of Study I of the thesis (see Chapter 1).

Method

Study Design

The current study uses an existing longitudinal dataset to examine these questions, which contained information on substance use, delinquent-type behaviour, and other variables of interest.

Sample

The SACENDU (South African Community Epidemiological Network of Drug Use) school survey was a prospective cohort study, in which students were surveyed at three time points. Participants were in Grade 8 at the first phase of data collection (Time 1:1997), and then followed up again in Grade 10 (Time 2: 1999), and Grade 12 (Time 3:2001). In the original study, a stratified sample of 39 public schools in the Cape Town Metropole was selected. During the first stage of randomisation, the first two digits of the schools' postal codes were used to stratify the data. These were viewed as representative of the area covered by the first two digits of the postal code, as this geographical measure of area are seen to be indicators of socio-economic status and school structures (Flisher et al., 2010). The number of selected schools was proportional to the total number of students per stratum. During the second stage of randomisation, forty students were randomly selected from two randomly selected Grade 8 classes from each of the selected schools. An additional five students were selected to replace any students who may have been absent on the day of data collection (Flisher et al., 2003).

The sample at Time 1 consisted of 1470 students, but the number decreased to 638 by Time 3. The average age of the sample at Time 1 was 14.10 years (SD=1.21), while at Time 2 it was 15.9 years (SD=1.03). At Time 3 the mean age was 17.6 years (SD=0.83). At Time 1, males comprised 56.4% of the sample (n=810) and females comprised 43.6% (n=627). In

terms of how participants categorised themselves into racial groups, 52.6% (n=737) self-categorised themselves as "Coloured"[1], 28.5% as Black African (n=399) and 18.3% as White (n=256). Only nine saw themselves as Asian (0.6%). The majority (90.2%, n=1326) of participants reported that they had two or more of the following items: television, phone, motorcar or electricity in their household.

Measures

The self-completed questionnaire for the original study assessed a wide range of risk behaviours, including substance use, road-related behaviours, violent or delinquent behaviour, suicidality, bullying, and sexual behaviour. It has been used in a number of previous South African studies with high school students (for example, (Flisher et al., 2003)). For the purposes of this secondary analysis, the main variables of interest are provided below.

Delinquent-type behaviour. Delinquent-type behaviour was the primary outcome of interest in the study. To measure delinquent-type behaviour, a composite variable was constructed by the researcher in the current study that consisted of survey items referring to engagement in theft, property damage, bullying and fighting in the 12 months prior to the study, and walking home alone (which can put adolescents at risk for interpersonal violence, especially in areas with elevated levels of community violence) and carrying weapons in the four weeks prior to the study. The composite variable was coded first as a dichotomous variable (any delinquent-type (1) versus no delinquent-type behaviours (0) and second as a ranked, categorical variable (a score of 0 indicated no delinquency, a score of 1 indicated a single delinquency act and a score of 2 indicated multiple (two or more) acts of delinquency).

Drug use. Drug use was the main independent variable of interest. Participants in the original study were asked about lifetime use (defined as ever having used) of illegal drugs, including cannabis, Mandrax (methaqualone), ecstasy, crack cocaine, and inhalants. A

[1] The term "Coloured" is a demographic marker chosen for its historical significance and continued relevance in terms of tracking progress in addressing health disparities in South Africa. It refers to a grouping of people of mixed race ancestry who self-identify as a particular ethnic and cultural grouping in South Africa.

composite drug use variable was constructed that was first coded as a dichotomous variable (no drug use (0) versus drug use (1)) and then as a ranked, categorical variable (0=no drug use, 1=one drug used, 2=more than one drug used in the reporting period). These questions had acceptable levels of test-retest reliability as Cohen's *K* for cannabis use was 79.9% (71.8–88.0) and test-retest reliability for other illegal drugs ranged from 96.8-97.6% (Flisher, Evans, Muller, & Lombard, 2004).

Alcohol use. This was the second independent variable of interest. Participants were asked if they had ever consumed alcohol other than a few sips in their lifetime. This was coded as a dichotomous variable (yes (1) or no (0)). Test-retest reliability for the alcohol use questions was 78.0% (71.2–84.8) (Flisher et al., 2004).

Cigarette use. Students were asked if they had ever smoked a whole cigarette. This item had a yes (1) or no (0) response category. Test-retest reliability on smoking questions was 85.4 (80.0–90.8) (Flisher et al., 2004).

Other variables. Potential risk or protective factors, or confounders of the relationship between the independent variables and the outcome variable also were included in the analyses. These variables were:

Demographic information. This included items referring to the age, gender (male (1) and female (2)) and race (Black African, "Coloured", White and Indian/Asian) of students. Two proxies existed for socio-economic status (SES). First, students were asked which of the following they had within their households: electricity, telephones, television, and motor vehicles. Students who reported possessing fewer than two items in their household were categorised as being from a low socio-economic background, while those who reported possessing two or more items were categorised as having a high SES. Participants were also asked about the number of persons who slept in their room with them at night. Two categories were created, namely sleeping alone (high SES), or sleeping with others

(indicating low SES). These two proxies of SES were used in order to maintain consistency with previous measurements of SES on these data (Flisher et al., 2010). These separate measures of SES has also been found to be reliable and valid in this specific setting (Fisher et al. 2003), while more common measures that are derived from proxies such as parental income or parental occupation have been found not to be sufficiently reliable or valid for use in this setting (Aarø et al., 2009).

Parenting. The parenting variable asked participants to indicate if their biological parents had raised them. This dichotomous variable had a yes (1) or no (0) response.

Absenteeism from school. To examine the frequency with which students were absent from school, students were asked how many days they had been absent in the previous school term. This was treated as a continuous variable.

Failing or repeating a grade. This dichotomous variable measured if students had ever repeated a grade. The variable also had a yes (1) or no (0) response.

Procedure

After consenting to participate in the study, students completed a self-report questionnaire during school time. This was available in English, Afrikaans or Xhosa (languages widely spoken in the Western Cape). No school personnel were present during the administration. Confidentiality was protected as names were not recorded on the questionnaires. This procedure was repeated for each time period that data was collected (Flisher et al., 2010). Questionnaires were matched by a unique identification number provided to students.

Students were required to give informed assent to participate in the study prior to completing the questionnaires. Parents of students that had been randomly selected were provided with a letter outlining the study and their child's participation. They were given the

option of withdrawing their child from the study, which none of the parents chose to do. In addition, no students that were randomly selected to participate in the study refused to do so.

Data analysis

The pattern of missing data in the dataset was closely examined. Since there were significant factors that were associated with dropout, the pattern of missing data was not random. The analysis of the original data had to take into account the number of students that dropped out of school between Time 2 and Time 3. This excludes those who were lost to follow-up (n = 32), and non-response cases (n = 31) who were removed from the dataset. An indicator variable for dropout was created for each of the follow-up time points. The authors modelled the school dropout outcome on variables that were found to be significantly related to leaving school prematurely in an earlier study based on this data. The earlier study found that absenteeism, low SES, and past month cigarette use were predictors of school dropout (Flisher et al., 2010). Models of school dropout were then developed, and used to apply inverse probability weighting (IPW) to control for bias created by the missing data on the delinquency outcome. The IPW approach is an acceptably precise method and is suitable for use in cohort studies with high dropout rates (Chikobvu et al., 2009).

In the present study, data were analysed using STATA v12. To explore the relationship between substance use and delinquency at the three time periods (separately), and to identify other variables associated with delinquency, logistic and ordinal regression models of delinquency were developed. These models were used to assess whether or not coding delinquency as a binary or ordinal variable made any difference to the results of the models. Both the time-specific logistic and ordinal models used a random effects model to account for the multistage stage sampling of students, with school considered as a random effect. At Time 2 and Time 3, IPW was used to account for the high level of dropout. As more variables were associated with delinquency when it was treated as an ordinal variable,

and due to the concern of losing valuable information when this variable was considered as a dichotomous variable, it was treated as an ordinal variable in further analyses.

To model transitions in behaviours and delinquency trajectories from Time 1 to Time 2 and from Time 2 to Time 3, a mixed effects ordinal logistic model was utilised. This model was able to take into account missing data in the longitudinal analysis. Two random effects had to be specified to account for correlation in the data. School was the first random effect specified as this was the primary sampling unit in the survey, and student identity (determined by students' unique participation number) was the random effect nested within schools and used to account for the repeated measurements over time at the participant level. Only student identity was found have significant variation in delinquent-type behaviours, meaning that certain adolescents were more likely to be engage in these behaviours than others, and this could not be explained by the effect of the particular measured variables. In addition, IPW was used with the mixed effects model to adjust for dropout.

Results

Prevalence of Problem Behaviours

Delinquent-type behaviours seemed common across the three different time periods of the study, with just over half of the participants reporting these behaviours at each time point (Table 1). Alcohol use was at 34.3% at Time 1, but increased to 46.6% at Time 2 and then to 63.3% at Time 3. Drug use prevalence was lower, at only 8.80% at Time 1, but this increased to 21.1% at Time 2 and 32.1% at Time 3. Smoking also increased over time, with lower proportions of students reporting smoking at Time 1 (34.7%) compared to Time 2 (49.0%) and Time 3 (56.0%) (Table 5). All three risk behaviours increased with age, despite the high dropout rate, which was not adjusted for in this table.

Transitions in the Prevalence of Problem Behaviours over Time

Table 6 shows crude, unadjusted changes over time (from 1997-2001) in the prevalence of lifetime drinking, drug use and delinquent behaviours among high school students. The percentage of adolescents who moved from never drinking alcohol in 1997 to lifetime use in 1999 was 19.9%. Among those students who had never consumed alcohol in 1999, 24.9% had used alcohol by 2001. With regards to drug use, 8.5% of students who had never used drugs in 1997 had initiated drug use by 1999. By 2001, 10.9% of students who had never used drugs in 1999 had tried drugs. Among those who had never smoked a whole cigarette in 1997, 17.9% reported smoking in 1999. In 2001, 13.6% of participants who had not smoked in 1999 had smoke a whole cigarette by 2001. Almost a quarter of participants who had never engaged in delinquent-type behaviours by 1997 had done so by 1999 and of those students who had never reported delinquent-type behaviours in 1999, 19.8% reported these behaviours by 2001.

Table 5. *Percentage of Learners Reporting Problem Behaviours at Times 1, 2 and 3*

	Time 1		Time 2		Time 3	
Type of Behaviour	N* (%)	Total	N* (%)	Total	N* (%)	Total
Alcohol Use	490 (34.33)	1427	415 (49.58)	837	305 (63.28)	482
Drug Use	112 (8.88)	1262	160 (21.11)	758	144 (32.08)	449
Smoking	502 (34.65)	1449	416 (49.00)	849	272 (55.97)	486
Delinquent-type behaviours	778 (56.71)	1372	463 (56.40)	821	268 (55.49)	483

*Missing data have been excluded from the numbers provided in Table 5. These percentages are before adjusting for those adolescents who dropped-out of school

Table 6. *Transitions over Time for the Prevalence (%) of Lifetime Alcohol and Drug Use and Delinquent-Type Behaviour*

Lifetime Alcohol Use in 1999					Lifetime Alcohol Use in 2001				
Lifetime Alcohol Use in 1997	No	Yes	Missing	Total	Lifetime Alcohol Use in 1999	No	Yes	Missing	**Total**
No	364 (38.85%)	186 (19.85%)	387 (41.30%)	937 (100.00%)	No	146 (34.60%)	105 (24.88%)	171 (40.52%)	422 (100.00%)
Yes	48 (9.80%)	217 (44.28%)	225 (45.92%)	490 (100.0%)	Yes	19 (4.58%)	180 (43.37%)	216 (52.05%)	415 (100.00%)
Missing	10	12	21	43	Missing	12	20	601	633
Total				1470	Total				1470
Lifetime Drug Use in 1999					Lifetime Drug Use in 2001				
Lifetime Drug Use in 1997	No	Yes	Missing	Total	Lifetime Drug Use in 1999	No	Yes	Missing	**Total**
No	520 (45.22%)	98 (8.52%)	532 (46.26%)	1150 (100.0%)	No	249 (41.64%)	65 (10.87%)	284 (47.49%)	598 (100.0%)
Yes	10 (8.93%)	44 (39.29%)	58 (51.79%)	112 (100.00%)	Yes	9 (5.63%)	60 (37.50%)	91 (56.87%)	160 (100.0%)
Missing	68	18	122	208	Missing	47	19	646	712
Total				1470	Total				1470

	Lifetime Cigarette Use in 1999					Lifetime Cigarette Use in 2001			
Lifetime Cigarette Use in 1997	No	Yes	Missing	Total	Lifetime Cigarette Use in 1999	No	Yes	Missing	**Total**
No	400 (42.24%)	164 (17.32%)	383 (40.44%)	947 (100.00%)	No	184 (42.49%)	59 (13.63%)	190 (43.88%)	433 (100.00%)
Yes	29 (5.8%)	249 (49.6%)	224 (44.6%)	502 (100.0%)	Yes	15 (3.60%)	196 (47.12%)	205 (49.28%)	416 (100.00%)
Missing	4	3	14	21	Missing	15	17	589	621
Total				1470	Total				1470
	Lifetime Delinquency in 1999					Lifetime Delinquency in 2001			
Lifetime Delinquency in 1997	No	Yes	Missing	Total	Lifetime Delinquency in 1999	No	Yes	Missing	Total
No	222 (37.37%)	140 (23.57%)	232 (39.06%)	594 (100.00%)	No	143 (39.94%)	71 (19.83%)	144 (40.22%)	358 (100.00%)
Yes	119 (15.30%)	296 (38.04%)	363 (46.66%)	778 (100.00%)	Yes	48 (10.37%)	177 (38.23%)	238 (51.40%)	463 (100.0%)
Missing	17	27	54	98	Missing	24	20	605	649
Total				1470	Total				1470

Factors associated with delinquent-type behaviours

In the logistic regression models, gender, SES, and repeating a grade were significantly associated with delinquency at Time 1, regardless of whether it was treated as a dichotomous or ordinal variable (Table 7). Male students were significantly more likely to engage in delinquent-type behaviours than females. In addition, the ordinal regression model found that participants who reported sharing a room and being raised by only one biological parent were more at risk for delinquent-type behaviours. Alcohol and drug use were significant predictors, as participants who used alcohol or drugs were significantly more at risk for delinquent-type behaviours at this time-point.

At Time 2 and Time 3, the regression models were adjusted for dropout using the IPW methods described earlier. At Time 2, gender, SES, repeating a grade and being absent from school were significantly associated with delinquent-type behaviour regardless of whether delinquency was treated as a dichotomous or ordinal variable (Table 7). Male, "Coloured" participants with a higher SES background were significantly more at risk for delinquent-type behaviours. However, in the ordinal regression model, alcohol and drug use variables were significantly associated with delinquency in addition to the above-mentioned variables. That is, students who drank alcohol or used drugs were more likely to engage in delinquent-type behaviours. This association was not present when the dependent variable was collapsed into a binary variable.

After adjusting for dropout at Time 3, gender, race and repeating a grade were significantly associated with delinquency in the logistic regression model (Table 7). In the ordinal regression model, gender and repeating a grade also were significantly associated with delinquency but race was no longer a significant predictor. In contrast to Time 2, neither the alcohol nor the drug use variables were significantly associated with delinquency in the ordinal regression model (Table 7).

Table 7. *Logistic and Ordinal Regression Model for Delinquency at Times 1, 2 and 3*

	Time 1				Time 2				Time 3			
	Logistic		Ordinal		Logistic		Ordinal		Logistic		Ordinal	
Delinquency	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Age	0.94	0.83-1.06	0.92	0.83-1.02	0.87	0.71-1.06	0.84	0.70-1.01	0.86	0.64-1.15	0.92	0.70-1.21
Gender	0.35	0.26-0.47*	0.37	0.29-0.46*	0.25	0.17-0.36*	0.30	0.22-0.34*	0.27	0.17-0.44	0.30	0.18-0.51*
Race	0.93	0.80-1.09	0.92	0.83-1.03	0.95	0.77-1.18	0.94	0.80-1.10	0.77	0.61-0.97	0.87	0.69-1.10
SES	1.89	1.16-3.08*	2.01	1.31-3.08*	2.57	1.19-5.56*	2.61	1.20-5.79*	1.26	0.47-3.35	1.58	0.65-3.87
Share room	1.19	0.98-1.46	1.23	1.04-1.45*	1.21	0.87-1.70	1.03	0.80-1.32	1.04	0.65-1.66	0.93	0.65-1.31
Biologically raised	0.83	0.64-1.08	0.77	0.61-0.97*	0.80	0.55-1.17	0.80	0.65-1.27	1.09	0.65-1.81	0.99	0.64-1.54
Repeat Grade	1.61	1.16-2.25*	1.62	1.20-1.70*	1.57	1.09-2.26*	1.51	1.11-2.07*	1.88	1.21-2.92	1.98	1.38-2.84*
Absent	1.01	0.98-1.04	1.01	1.00-1.03	1.05	1.01-1.10*	1.04	1.01-1.07*	1.04	0.99-1.10	1.04	1.00--1.09
Smoke	1.50	0.95-1.28	1.43	1.20-1.70*	0.96	0.80-1.14	1.09	0.88-1.36	1.03	0.75-1.42	1.04	0.82-1.31
Alcohol	1.10	0.95-1.28	1.13	1.01-1.26*	1.29	0.92-1.80	1.26	1.02-1.55*	1.18	0.87-1.59	1.16	0.96-1.40
Drug Use	1.10	0.97-1.06	1.03	0.99-1.07	1.04	1.10-2.42*	1.10	1.03-1.16*	0.97	0.89-2.53	0.99	0.93-1.06

Note: OR=Odds Ratio, CI=Confidence Interval, *p<0.05

Predictors of Delinquent-Type Behaviours over Time

The final mixed effects ordinal logistic model showed that gender and involvement in delinquent-type behaviour were predictive of engagement in future delinquent-type behaviours. Male students and students who had previously self-reported delinquent acts were more likely to be delinquent at the next time period (Table 8). Alcohol, cigarette smoking and drug use were not significant predictors of future involvement in delinquent behaviours. However, at each time period, engagement in delinquent-type behaviours significantly interacted with cigarette smoking to predict involvement in delinquent-type behaviours at the following time period. Further calculations indicated that while engagement in delinquent-type behaviours had no effect among non-smokers, for smokers, engagement in multiple delinquent-type behaviours led to a 1.3-fold increased risk of engaging in delinquency at the following time period (95% CI: 347.20; 126.43). Smoking therefore modified the effect of current delinquent-behaviour on the risk of future delinquent-type behaviour.

Table 8. *Risk factors for Delinquency: Final Mixed Effects Ordinal Logistic Model*

	OR	95% CI	p-value
Delinquency			
Gender[a]	0.37	0.28-0.49	<0.001*
Race	0.97	0.84-1.11	0.65
Absenteeism at previous time	0.99	0.96-1.02	0.41
Repeat grade at previous time	1.33	0.94-1.87	0.10
Smoke at previous time	0.87	0.56-1.35	0.54
Alcohol at previous time	1.06	0.75-1.48	0.75
Drug Use at previous time	1.06	0.86-1.66	0.29
Delinquency at previous time	1.96	1.10-3.49	0.02*
Delinquency*Smoke at previous time	1.45	1.05-2.01	0.02*

[a] Male =0, 1=Female , OR=Odds Ratio, CI=Confidence Interval

Discussion

This study is the first of its kind to examine the longitudinal relationship between substance use and delinquent-type behaviours in a developing country. It found that substance use and delinquent-type behaviours are prevalent, that there is an association between the two behaviours, but that substance use does not necessarily predict delinquent-type behaviours.

While the findings indicate that substance use did not seem to be a positive predictor for delinquent-type behaviours, there was a cross-sectional association between certain substance use behaviours and delinquency at earlier periods. The study also shows that alcohol use, smoking and delinquent-type behaviours especially were prevalent among this sample of high school students in Cape Town. Furthermore, delinquency during early adolescence was predictive of delinquency during later adolescence, indicating that appropriate early intervention programmes could assist in the prevention of the progression of this behaviour.

Findings indicated that substance use co-occurred with delinquent-type behaviours during early and middle adolescence. During early adolescence (Grade 8), smoking and alcohol were significantly associated with delinquent-type behaviours. In middle adolescence (Grade 10), alcohol and drug use were associated with delinquent-type behaviour. However, in late adolescence (Grade 12), no substance use behaviours were significantly related to delinquent-type behaviours. This can be somewhat explained by the fact that the use of certain substances is developmentally normative by Grade 12 (Chassin, Pitts, & Prost, 2002). In South Africa, the legal age of smoking is 16 years (Minister of Health, 2008) while the minimum legal drinking age is 18 years (Republic of South Africa, 2004). These behaviours are therefore not “delinquent” or illegal. However, adolescents who engage in these behaviours earlier on usually experience other problems (Chassin et al., 2002), and therefore

may be more likely to engage in delinquent-type behaviours as the findings of the current study indicate.

This relationship between cigarette smoking, substance use and involvement in delinquency being related *at the same time period* during early and middle adolescence provides some support for the problem-based behaviour theory (Jessor, 1991, 1992). This theory proposes the clustering together of certain, experimental behaviours during adolescence. The findings of the current study is in agreement with research conducted in developed (Bolognini et al., 2007; Griffin, Botvin, Scheier, Diaz, & Miller, 2000; Lowry et al., 1999) and developing countries including South Africa that have also reported associations between smoking cigarettes (Pahl, Brook, Morojele, & Brook, 2010), drinking alcohol (Morojele et al., 2002), other drug use (Plüddemann et al., 2010) and participation in delinquent-type behaviours. This co-occurrence of substance use and delinquent behaviours suggests that interventions that address multiple risk behaviours may be more efficient and effective in changing adolescents' behaviour profiles than interventions that focus on a single problem behaviour.

In addition, the current study explored certain shared risk factors that were potentially related to delinquent-type behaviour, such as gender and repeating a grade and to a lesser extent, socio-economic status. Previous studies show that doing well academically can be a protective factor (Cox, Zhang, Johnson, & Bender, 2007; Hallfors et al., 2006), and also that male adolescents are more likely to engage in delinquent-type behaviours (Landsheer & Van Dijkum, 2005; Mason et al., 2010). However, as this study utilised an existing longitudinal dataset that had a pre-specified set of variables, it was not possible to explore the relationship between parental and peer risk factors and problem behaviours that existing literature have found to have a significant impact on delinquent-type behaviours (Brook et al., 2006; Dishion et al., 2010; Feldstein & Miller, 2006; Fishbein & Pérez, 2000).

Present findings suggest that early engagement in delinquent behaviours predicts the engagement in future delinquent-type behaviours. This finding is similar to results from studies conducted in high-income countries. Mason et al. (2010) found delinquency during adolescence was significantly related to committing crime as a young adult, especially for adolescents from low socio-economic backgrounds. In their Dutch study with male and female adolescents, Landsheer and van Dijkum (2005) found that engagement in earlier delinquent-type behaviours was predictive of later delinquency among male participants. This study and earlier research therefore points to a persistent pattern of involvement in delinquent-type behaviours from early adolescence. This is cause for concern given evidence of the negative psychological, educational and legal consequences associated with repeated involvement in these behaviours (Corneau & Lanctôt, 2004; Lanctôt et al., 2007).

The results also indicate that addressing substance use only during adolescence will not necessarily result in efficient prevention of the progression of delinquent-type behaviours in this context, as the results did not indicate that substance use were significant predictors of later delinquency. While the two risk behaviours are associated at different time periods, it is unclear whether substance use predicts delinquency. Previous research has also been equivocal in this area. Certain studies have found that that while delinquency and delinquent-type behaviour were predictive of substance use, substance did not predict trajectories of delinquency amongst adolescents (Becker et al., 2012; Bui, Ellickson, & Bell, 2000; Lynne-Landsman, Graber, Nichols, & Botvin, 2011). The findings are, however, inconsistent with international literature that identified substance use as predictors of various delinquent-type behaviours (Ferguson & Cricket Meehan, 2010; Hallfors et al., 2006; Henry, 2007). While the findings of the current study cannot ascertain that substance use is predictive of delinquency, an integrated intervention could still be useful, especially during early and

middle adolescence (Grade 8 and 10) where the co-occurrence of substance use and delinquent-type behaviours appear to be the strongest in this context.

Another major finding was that the interaction between smoking and engaging in delinquent-type behaviour was significant, as the effect of delinquency predicting later delinquency is different for adolescents who had smoked previously to those who had not smoked before. Lifetime smokers who also engaged in delinquent-type behaviours were seen to be at greater risk for future delinquent-type behaviours than those who did not smoke and engaged in delinquent-type behaviours. This is in agreement with a previous South African study that indicated that smoking is related to a number of other problem behaviours (Pahl et al., 2010). This finding suggests that it may be useful to identify adolescents who are displaying delinquent-type behaviours *and* smoking cigarettes as they may be most at risk for engaging in future delinquency.

Even though substance use was not found to be predictive of delinquent-type behaviour in the current study, it still makes sense to advocate for the introduction of early, targeted interventions that prevent the continuation and escalation of both of these problem behaviours. Research has shown that problem behaviours that take place during adolescence are often predictive of problem behaviours in early adulthood. Prior studies for example have found that early initiation of alcohol use is predictive of alcohol use disorders in adulthood (Myers et al., 2011) and adolescent delinquency is predictive of involvement in crime as an adult (Mason et al., 2010). At present, these early intervention services for delinquent-type behaviours, as well as substance use behaviours for adolescents, are largely absent in South Africa. In the future this may be an important investment as intervening successfully with high risk adolescents during this crucial stage of development, which could prevent many of the long-term sequelae associated with continued engagement in these problem behaviours.

Limitations of the Current Study

As indicated above, certain findings were in line with existing literature and the researcher's expectations (positive association between substance use and delinquent-type behaviours at early and middle adolescence) while others (substance use not a significant predictor of future delinquent-type behaviour) did not match these at all. There is a strong likelihood that the use of a secondary data set influenced the findings. Some of the known disadvantages of using an existing dataset applied to this study, such as the original study not being designed to answer the specific research questions applicable to this study, and therefore not all information of interest was collected. In addition, variables may have been pre-defined or specified in a certain way that was not necessarily conducive to the current study (Boslaugh, 2007).

It is possible that the original study's relatively crude measure of substance use involvement (namely the lifetime use of alcohol, drugs, and/or cigarettes) may have impacted on findings on the transitional relationship between substance use and delinquency. As "lifetime" measures of substance use include adolescents who have used substances only once as well as those with greater problem severity, it probably failed to detect the relationship between more problematic substance use and the associated behavioural consequences (including delinquent behaviours). Recently, Dennis, Clark and Huang (2014) found severity of substance use to be predictive of a host of problems among adolescents. This included problems at school, such as fighiting and absenteeism.

In addition, it is also possible that substance use is not an antecedent of involvement in delinquent-type behaviour as much as a consequence of involvement in these behaviours. While not examined in this study, previous studies have found that engagement in delinquent-type behaviour often precedes problematic drug use (Bui et al., 2000; Mason & Windle, 2002).

The current findings should be considered in the light of additional study limitations. First, data for the original study were collected in 1997, 1999 and 2001. Since then, drug use patterns have changed among the youth in the Western Cape Province with methamphetamine use now being a significant problem (Plüddemann et al., 2008), and previous studies finding methamphetamine use to be strongly associated with aggressive behaviour and fighting among young people (Baskin-Sommers & Sommers, 2006; Pinhey & Wells, 2007; Plüddemann et al., 2010). Similarly, the original questionnaire also did not ask participants about heroin use. A review of adolescents receiving treatment for heroin use indicated that a number had delinquent attitudes or behaviours (Hopfer, Crowley, & Hooks, 2002), and it is therefore important to include heroin in future drug use measures for adolescents. The inclusion of questions that measure problematic substance use and a more comprehensive list of substances may therefore have had a different impact on the predictive relationship between substance use and delinquent-type behaviours.

Unfortunately, it was also not possible to assess the proportion of students in this sample who engaged in delinquent-type behaviours prior to adolescence. However, it is highly plausible that a subset of participants engaged in delinquent-type behaviours before adolescence. This may have significant implications for their involvement in such behaviours over the life-span, particularly as the literature suggests that engagement in delinquent-type behaviours prior to adolescence significantly predicts a life course of involvement in delinquent and criminal behaviour (Moffitt, 1993). Future longitudinal studies should strongly consider examining when these behaviours were first initiated as early initiators may be a particular high risk group of adolescents in need of intensive interventions to prevent them from becoming persistent offenders.

Conclusion

This is one of the first studies to explore the relationship between substance use and

delinquent-type behaviours in a developing country setting. It also adds to the emerging literature on the trajectory of delinquency. As such, it assists in understanding the complex relationship between involvement in substance use and delinquent-type behaviours. The findings point to the strong association between early engagement in delinquent behaviours and future risk of delinquency, which is in agreement with research conducted in international settings, but not between substance use behaviour and future delinquent-type behaviours. This is somewhat in contradiction to international literature on this topic. The findings of the current study also point to adolescents being more likely to engage in more than one risk behaviour at the same time period, especially during early and middle adolescence, which is in keeping with the Problem-Based Theory (Jessor, 1991; 1992). Gender and grade repetition were also identified as consistent risk behaviours for delinquent-type behaviours, which is similar to findings from high-income countries. These findings have implications for services suggested for these adolescents.

Implications for Services and Intervention Development

It could be argued that services for substance-using adolescents would be more effective if they take into account that delinquent-type behaviours often co-occur with substance use. Substance use practitioners have identified that co-existing problem behaviours can interfere with substance use treatment, and if they are not attended to the outcome is less likely to be successful (Substance Abuse and Mental Health Services Administration, 2011). Therefore, integrated intervention services are needed to address both of these problem behaviours. In addition, the findings of this study indicate that for a number of adolescents, if delinquent-type behaviours are not addressed early on they may continue throughout adolescence. In order to prevent this progression of problem behaviours, an early integrated intervention is required that targets both substance use and delinquent-type behaviours.

In addition, findings point to the need for early identification of substance use and delinquent-type behaviours as problem behaviours. The provision of early interventions that target male students who are already displaying delinquent behaviours, as well as those who already engaging in delinquent-type behaviours and smoke cigarettes are suggested, as these factors seem to increase risk for future and further engagement in delinquent-type behaviours. Services may also take into account the high levels of involvement in delinquent-type behaviours in this context during early adolescence, which suggests that the early identification of problem behaviours through screening during this developmental period would be valuable. Adolescents that are at risk of delinquent-type behaviours, and substance use behaviours, should be screened to assess whether they should be evaluated for further services.

A large number of adolescents may possibly benefit from early intervention services that address these behaviours, such as brief interventions. However it is unlikely that brief interventions exist that address both substance and delinquent-type behaviours. As it is costly to develop new screening tools and brief interventions to use within an SBIRT model, it may be possible to adapt existing substance use interventions to address multiple problem behaviours among high-risk adolescents.

Screening is the first step of the SBIRT model, and in assessing if a brief, integrated intervention would be appropriate for adolescents. This early identification is the focus of the next chapter.

Chapter 3 (Study II)

Identifying a Psychometrically Sound Screening Tool for Adolescent Substance Use

Chapter 1 has outlined the prevalence and consequences of substance use among adolescents in Cape Town. Given the potential for negative consequences, it is helpful to screen adolescents for potential substance use problems (Babor et al., 2011) so that those at risk may be identified and provided with interventions to avoid adverse consequences (Winters & Kaminer, 2008). Screening can also help to rule out those who are not at risk of these problems at time of screening (Dennis, Chan, & Funk, 2006)

Why screen? The Importance of Screening for Substance Use among Adolescents

Universal screening is the first step of the SBIRT approach to addressing substance use problems with adolescents (see Chapter 1 for a description of this approach). The definition of universal screening is that all people attending a particular service are screened for substance use using a brief screening tool, even if they are not actively looking for help for this behaviour (Substance Abuse and Mental Health Services Administration, 2011). While widely used among adults, universal screening for substance use has recently been expanded to adolescent populations (Levy & Knight, 2008; Mitchell et al., 2013). As adolescents are particularly at risk of experiencing negative consequences as a result of substance use, they may benefit from universal SBIRT (American Academy of Pediatrics & Committee of Substance Use, 2011).

Several screening tools have been developed for adolescent substance use, but they have mainly been utilised in health care settings. There has been little research on the application of these tools for adolescent populations recruited from other settings, such as communities. There is also a lack of research on whether findings of the psychometric properties of these instruments can be extrapolated outside of the USA, where the majority of such studies have been conducted (Levy & Knight, 2008; Mitchell et al., 2013). Since there is

a high level of school dropout among adolescents in South Africa (Flisher et al., 2010), it is possible that lower levels of literacy as well as language barriers may impact on response and understanding of tools in this context.

The following section will describe the qualities of good screeners, and provide more information on screening tools that have been selected for validation in this study.

Psychometric Properties

As screening is the first step in detecting whether an adolescent does or does not have a problem with drugs (Winters & Kaminer, 2008), using a reliable and valid tool is key as it will improve service providers' confidence that adolescents who screen positive do indeed have problems and that they do not miss out on those who screen negative but in fact could benefit from services. First, screening tools should be reliable and consistently measure the behaviours of interest. Using a reliable screener means that it should be relatively free from error, and consistent in its measurement (Winters et al., 1999). Two types of reliability are usually measured for screening tools: internal consistency and test-retest reliability. A screener with acceptable levels of internal consistency implies that responses to the different items in the instrument are similar to each other (Center for Substance Abuse Treatment 1998). A screening instrument should also provide evidence of test-retest reliability (internal consistency over time), so the results of the screener administered at two different times are the same unless there has been an actual change in their behaviour (Center for Substance Abuse, 1998; Levy & Knight, 2008). If a screener is reliable over time, one could advise service providers that the tool is an accurate reflection of problem behaviours.

Screening tools should also be valid, and effective in detecting those at risk of and actively using substances (Babor et al., 2007), so that they can differentiate between adolescents who are and are not at risk for substance use. Measuring the validity of screening tools usually focuses on criterion-related validity (namely that the tool measures what it sets

out to measure and not some other construct), and how they perform in comparison to other measures of substance use. This includes calculating sensitivity, which is their ability to identify true positive cases, and their specificity, which is their ability to identify true negative cases (Grimes & Schulz, 2002; Kelly, Donovan, Chung, Bukstein, & Cornelius, 2009). It also includes positive predictive values, which predict the probability of those who test positive on screeners really having a problem with substance use, and negative predictive values, which predict the probability that subjects who test negative on screeners truly do not use substances (Grimes & Schulz, 2002).

The use of valid screening tools is important for the correct classification of risk of substance use problems. The detection of adolescents who screen positive is useful for making decisions about who should be referred for further assessment and early intervention. It is important not to "miss" these true cases. However, a screening instrument that has problems with validity may detect a number of false positives, and refer adolescents for further services unnecessarily. Not only can this be expensive, but screening tools that seem more likely to assign a problem label and promote inappropriate referral (Winters, 1992) can cause problems for these individuals such as negatively affecting their family relationships (Grimes & Schulz, 2002).

Screening instruments therefore need to be reliable and valid, and able to detect a high rate of true problems when it comes to adolescents' substance use. A possible factor that influences case detection is the delivery of screening instruments. The next section will describe common ways to conduct screening.

Self-report Screening versus Biological Testing

The majority of substance use screeners for adolescents gather self-reported data on substance use. These have generally been viewed as reliable and valid for early detection of substance use problems (Mitchell et al., 2013; Winters & Kaminer, 2008), as long as well-

developed and validitated measures are utilised (Winters & Kaminer, 2008). Limited evidence exists that shows that self-reporting of substance use is at least fairly valid when open-ended measurements (Lintonen, Alström, & Metso, 2004) are used and there is engagement with the adolescent (Williams & Nowatski, 2005). However, recent studies have expressed concern about the level of accuracy of substance-use reporting. For example, the results of a systematic review indicated that there are cognitive factors and consequences to certain health behaviours that may influence the validity of self-report data for substance use and delinquent-type behaviours (Brener, Billy, & Grady, 2003). Other studies have also found that adolescents may under- report the use of certain drugs (Delaney-Black et al., 2010; Williams & Nowatzki, 2005).

Delivery of screening: Self-report or biological testing. Additional methods have therefore been developed and used extensively to counteract the potential problem of under-reporting of substance use. Biological testing is viewed as a more objective screening measure than self-reported measures, and includes methods such as urinalysis and more recently, hair analysis (Delaney-Black et al., 2010) to confirm the results of self-report screening (Winters and Kaminer (2008). A recent study conducted in South Africa with adults used hair analysis as a biological marker, but found that this tended to underestimate substance use (Kader, Seedat, Koch, & Parry, 2012). Other preliminary studies with adolescents in developing countries have indicated that the results of biological tests and self-report measures are comparable. Advances in biological testing also mean that results can be obtained rapidly, by staff who have received on-site training (Wolff, 2006). However, there are also limitations with the use of biological testing. First, there is a strong risk for error if it is not administered correctly (Levy, Sherritt, Vaughan, Germak, & Knight, 2007). Second, certain biological tests that can be quickly conducted have a very brief detection time, and can only confirm use within the past few hours or days and therefore cannot reflect patterns

of use (Mitchell et al., 2013; Winters & Kaminer, 2008). These tests may miss out on people who have not recently used substances. This is particularly relevant for adolescents who may only use substances on weekends.

Both self-report screeners and biological testing seem to have their limitations in detecting substance use among adolescents. It must however also be stressed that the aim of screening is not to provide a full diagnosis when it comes to substance use, as those who screen positive will be referred for a further assessment of behaviours (Chapter 4). Due to the logistical issues that may be faced with providing biological tests in settings with low-resources, this study therefore promotes the use of self-report screeners. Besides being psychometrically sound, there are other key qualities that these instruments should possess.

How to Screen: Qualities of Effective Screeners for Adolescent Substance Use

First, selected screening instruments should be easy to implement in terms of length, instructions and cost. Self-report screeners are generally free, or relatively inexpensive (Babor et al., 2007), which means that they can be used in settings with limited resources. Screeners also need to be brief in terms of length and ideally do not take a long time to administer (Winters & Kaminer, 2008). This is partly because of the developmental stage of the adolescent, as their executive functioning is not fully developed, and this can affect their attention span (Anderson, 2002). A further reason for ensuring the brevity of screeners is that they are the first step in assessment of substance use, and a more comprehensive assessment will follow if necessary. The administration of these screeners should be able to be task-shifted from health professionals to other categories of personnel working at health care facilities and community organisations in order to expand access to screening services (Center for Substance Abuse Treatment 1998). If screeners are complicated to administer, they will not be widely used (Babor et al., 2007).

Second, self-report screeners should be quick and easy to score (Center for Substance Abuse Treatment 1998; Knight, Sherritt, Shrier, Harris, & Chang, 2002). This is important because individuals who provide screening to adolescents should be able to quickly identify those at-risk and refer them on for further services. To make the interpretation of scoring easier, a number of tools provide empirically validated cut-off scores that can point to which adolescents may have problem behaviours (Center for Substance Use, 1998; Winters & Kaminer, 2008).

A third issue to consider is the generalisibility of screening instruments. Screening tools should have acceptable levels of reliability and validity across different social groups (Babor et al., 2007). The Center for Substance Use (1998) also recommends that instruments should show some evidence of having good psychometric properties across different populations of adolescents, as well as in different settings, such as schools and treatment programmes. This warrants the use of the same screening tool across settings and among a wide range of adolescents. It therefore makes sense to look at the psychometric properties of screening tools when it has been applied in settings other than the one it was originally developed for. The next section will discuss what the selection criteria are for useful screeners.

Selection Criteria for Screening Instruments

This section looks at which screeners are available that could be possibly used in Cape Town, South Africa. These tools were selected because they met the following criteria: they had acceptable psychometric properties; were user-friendly (brief and easy to administer and score); and measured both alcohol and drug use. While a number of other self-report screeners have been developed in the past few decades (for example, AUDIT (Alcohol Use Disorders Identification Test), Substance Misuse in Adolescence Questionnaire (SMAQ) and Drug Abuse Screening Test for Adolescents (DAST-A), the following three were selected

because they met all of the selection criteria: Global Appraisal of Individual Needs Short-Screener (GAIN-SS); Personal Experience Screening Questionnaire (PESQ); and CRAFFT.

Global Appraisal of Individual Needs-Short Screener (GAIN-SS). The GAIN-SS is a short self-report screening tool that was developed from a standardised clinical interview, the Global Appraisal of Individual Needs (GAIN) in response to the need to timeously identify substance users who would benefit from an intervention for their problems (Dennis, Feeney, Stevens, & Bedoya, 2008). It was designed for three main purposes: (i) it performs as a short screener to identify members of the general public who may have behavioural health disorders or other problems; (ii) it can be used to assess outcomes in treatment settings; and (iii) it can be used to measure behavioural health changes over time (Dennis et al., 2008). The GAIN-SS has been found to perform well in comparison to the standardised diagnostic tool. Results of validation studies indicate that the GAIN-SS had high discriminant validity, and its items are significantly correlated with the full instrument (Dennis et al., 2008; Titus et al., 2005).

The GAIN-SS fits the first criterion of being short in length and easy to administer. It only takes approximately three to five minutes to administer (in comparison to the hours that the full GAIN-I may take). Another advantage is that it screens for a number of other behaviours in addition to substance use, namely internalising and externalising behaviours, and engagement in crime or violence (Dennis et al., 2006) . The fact that it is short and quick to administer means it can also be beneficial in terms of cost (McDonell, Comtois, Voss, Morgan, & Ries, 2009). It also has clear scoring guidelines, with a manual on how to score the tool as well as interpret the score (Dennis et al., 2008).

The short screener also meets the criterion of being psychometrically sound with both adults and adolescents in the USA. Internal consistency levels have been found to be acceptable. Dennis et al. (2006) found that the subscales were highly correlated with the

overall screener (alpha of 0.96). The GAIN-SS was also found to be valid, with high levels of sensitivity (88%) and specificity (89%) Therefore the screener seems to identify the true proportion of adolescents who use substances, as well as the true proportion of adolescents who do not use substances (McDonell et al., 2009). In their large US-based study with adolescent populations, Dennis et al. (2006) found good levels of sensitivity (91%) and specificity (90%) at the highest cut off point points for the screener.

The aforementioned studies that have investigated the psychometric properties of the GAIN-SS have been conducted in the USA. No such studies have been conducted with adolescent populations in other countries. This is problematic because it is unclear whether the tool has the same psychometric properties, and is reliable and valid in settings other than the USA. Despite this, the instrument is being increasingly utilised as a screener for adolescent substance use in developing countries. For example, in Cape Town, the GAIN-SS was utilised among a small sample of school students, and the results indicated that nearly three-quarters of the participants (72%) reported that they had a problem related to substance-use in the previous year (Carstens, 2012). Without having tested the validity of the screener in this context, it is possible that this is an over-diagnosis, with a high number of false negatives identified, which can be harmful. Given this concern, it would be useful to examine the psychometric properties of this screener in this context.

CRAFFT. Another brief screening tool for adolescent substance use is the CRAFFT. Its name is a mnemonic of the key words of the first six questions in the screener (car, relax, alone, forget, friends, trouble) (Knight et al., 2002). It was developed by combining questions from three existing screeners: the Drug and Alcohol Problem Quickscreen, the RAFFT and the longer Problem-Orientated Screening Instrument for Teenagers in an attempt to address the limitations of these three screeners. The advantages of the CRAFFT are that it was developed especially for adolescents, is simple to score and the six items are easy to

remember (Knight et al., 1999). However, the CRAFFT was developed in a medical setting, and it is therefore also important to ascertain whether it is appropriate for use in other settings, such as in community-based organisations.

Studies conducted with the CRAFFT in the USA indicate that the tool has adequate levels of reliability and validity. In terms of reliability, the tool has been found to have high test-retest reliability (kappa values of up to 0.86), with the exception of one question (kappa value of 0.31) (Levy et al., 2004). Similarly, with regards to internal consistency, a recent review found alpha values for the CRAFFT to be in an acceptable range (0.65-0.86) (Dhalla, Zumbo , & Poole, 2011). The same review also concluded that the CRAFFT is a valid screening tool. In terms of criterion validity, the CRAFFT was shown to be relatively good at identifying true positives, as sensitivity ranged from 61% to 100%, while specificity values were slightly lower and ranged from 33% (only for one study) to 97% (Dhalla et al., 2011; Knight et al., 2002; Knight et al., 1999). The instrument also demonstrated high levels of sensitivity (92%) but less specificity (64%) in comparison to other screeners (AUDIT, POSIT, CAGE) (Knight, Sherritt, Harris, Gates, & Chang, 2003)). It was also found to perform well against the Adolescent Diagnostic Inventory (ADI), a standardised diagnostic interview (Dhalla et al, 2011). However, all of these studies have been conducted with US adolescents, and it is unclear whether the instrument will have similar levels of sensitivity and specificity in other adolescent populations.

Research findings of the psychometric properties of the CRAFFT in the few studies that have been conducted in other countries are somewhat equivocal. While the CRAFFT showed appropriate levels of internal consistency (alpha of 0.73) in a French study, sensitivity (55.6-100%) and specificity values (28.0-80.5%) varied in studies conducted in France (Bernard et al., 2005), Germany (Rumpf, Wohlert, Freyer-Adam, Grothues, & Bischof, 2013) and Singapore (Subramaniam, Cheok, Verma, Wong, & Chong, 2010). It is

therefore evident that more research needs to be conducted with this screening tool to assess whether it is valid and reliable for use in different cultural contexts.

As with the GAIN-SS, no South African evidence exists on the psychometric properties of the CRAFFT. Yet it has been used in at least one recent study to measure the prevalence of substance use among school learners (Moodley & Matjila, 2012). Since the aim of that study was to measure prevalence rates of substance use, it was not used as a brief screening tool. It is therefore important that this instrument is validated in the South African context to ensure that it can accurately detect substance use problems among adolescents.

Personal Experience Screening Questionnaire (PESQ). One of the advantages of the PESQ is its brief length. It was developed from a more comprehensive assessment tool, the Personal Experience Inventory, which consists of a substance use problem severity scale and other items that measure substance use history and psychosocial problems (Winters, DeWolfe, Graham, & St. Cyr, 2006; Winters & Kaminer, 2008). The PESQ was posed as a shorter instrument that could be used to screen adolescents and would therefore be more cost-effective (Winters, 1992) than the full instrument. It also fits the criteria of being easy to administer and to score.

In terms of its psychometric properties, two studies indicated that it appears to have acceptable levels of reliability (internal consistency: alpha values from 0.81 (Winters et al., 2006) to 0.95 (Winters, 1992)). In terms of validity, Winters (1992) found that the screener has good discriminant validity and the ability to predict the need for comprehensive substance use assessment. In this study, sensitivity values for the PESQ were 91% and specificity was 84%.

However, this screener has only been tested in the USA. It is therefore not known if the PESQ would be appropriate to use as a screening tool for adolescents in other countries. While the original instrument was tested in Minnesota only, Winters, DeWolfe, Graham, and

St.Cyr (2006) assessed whether the PESQ's psychometric properties would be acceptable across different ethnic (Native American Indians), gender and age groups in varous tribal states in the USA. While this study was still conducted in the USA only, the PESQ was adapted to make it more applicable to the specific population, and scoring was also changed. Internal consistency (Cronbach's alpha values were 0.81 and higher) and convergent validity were favourable. The psychometric properties of this instrument should be established before it can be utilised with confidence in other countries.

Aim of the Study

Since the psychometric properties of the selected screeners, or any others that may be appropriate, have not been assessed in South Africa, the aim of this study was to assess the relative performance of these three short screening instruments among South African adolescents by establishing 1) test-retest reliability and internal consistency and 2) the concurrent validity by comparing the diagnostic ability of the three screeners in identifying substance-use problems in this population. This study addresses Study II's aim (see Chapter 1), which is the identification of valid and reliable screening instruments for use in a SBIRT approach to addressing adolescent substance use.

Method

The design of the current study was a repeated measures design with two time periods. Data were collected at two time periods that were two days apart.

Sample Characteristics

The Cape Town Metropole is divided into North, Central, South and East school districts. For the current study, the North district was the focal area for the study as communities in this district have a high prevalence of substance use, gangsterism and delinquent-type problems among adolescents (Morojele et al., 2013).

The sampling frame consisted of 25 organisations that ran at least one programme for at-risk adolescents who were still attending school and served at least a proportion of adolescents from the Metro North communities of Elsies River, Bishop Lavis, Belhar, Ravensmead and Delft in the Cape Town Metropole. These disadvantaged communities have been specifically identified as having high levels of substance use, gangsterism and crime (Western Cape Department of Community Safety, 2012). Convenience sampling was used, meaning that adolescents were recruited from the selected organisations based on their availability.

Fifteen of the 25 organisations in the sample frame were included in the study, as the necessary sample size was reached after collecting data from these organisations. They included social welfare organisations, religious organisations, residential care for orphaned or abandoned children, and youth empowerment programmes. These fifteen organisations did not different significantly from the other 10 included in the sampling frame, but were approached first to conduct screening in as they were easy to access and able to accommodate the data collection process reasonably easily. Organisational staff identified adolescents that who fitted the inclusion criteria for the current study, as described below.

The inclusion criteria were as follows: adolescents from disadvantaged backgrounds, aged between 12 and 19 years old; attending school (or the equivalent of school); and who could understand the instructions given to them by the project staff. Although this study aimed to test if the selected screeners were appropriate for substance-using adolescents, substance use was not an inclusion criterion as it is suggested that screening is a universal process in the SBIRT framework, and the aim was to screen all adolescents that who were attending school and came from these communities that attended these organisations. It was important to include all adolescents so that they could self-report during data collection if they were using substances, and the identification of substance use was based on the

screening instruments, and not confounded by staff members' perceptions of which adolescents used substances. The data from two adolescents who started but could not complete the screeners has been excluded from the analysis.

Epicalc 2000 was utilised to calculate the sample size that would be needed to estimate sensitivity and specificity values of at least 80%, allowing for a 5% error margin rate. While the calculated sample size was n=245, it was decided that the sample size needed to be slightly higher (n=260), to take into account possible attrition. The actual attrition rate was 15%.

Measures

The set of screeners included the GAIN-SS, CRAFFT and PESQ.

GAIN-SS. This screener includes demographic questions on the age and gender of participants. Following this, it consists of four subsections which each include five questions. The subsections address internalising disorders (mental health issues such as depression and anxiety), externalising disorders (mental health issues related to attention and behaviour), substance use disorders (and problems resulting from general substance use), and engagement in crime or violent behaviours (interpersonal violence and criminal behaviour). One response category on the GAIN-SS was added (past two to six months) to the original response categories of when last adolescents had engaged in substance use and other behaviours to provide a clearer idea of how recently behaviours occurred in this study (see Appendix A). Response items are as follows: "in the past month" (score of 4), "2-6 months ago" (score of 3), "7-12 months ago" (score of 2), "+year ago" (score of 1) and "never" (0). The recommended cut-off point for each of the sub-scales, is 1 for moderate use, which would indicate the need for a brief intervention or outpatient intervention (Dennis, Feeney, Hanes Stevens, & Bedoya, 2008).

CRAFFT. The CRAFFT contains three questions which ask about alcohol use, cannabis use and other drug use (section A), with responses being "yes" or "no" for all items (Dhalla et al., 2011). The question on other drug use was slightly modified to provide examples of drugs that were more common among adolescents in Cape Town (see Appendix B). Section B consists of the six questions that make up the instrument's mnemonic. Each "yes" answer in section B is scored as 1, and a score of 2 indicated that a further assessment of drug use is necessary (Knight et al., 1999).

PESQ. A modified version of the PESQ was developed in order to make it more appropriate for use with adolescents of different ethnic groups (Winters et al., 2006). This screener includes demographic questions on race, gender, current grade and age, and consists of 18 items that ask about general substance use and its potential consequences. Responses to items are "never" (score of 1) "once or twice" (score of 2), "sometimes" (score of 3) or "often" (score of 4). Scores can range from 18 to 72 (see Appendix C). The cut-off score to identify younger adolescents (12-15 years old) that would benefit from low intensive treatment such as brief interventions is 23 and for older adolescents (16-18 years old) is 24.

Procedure

A research assistant who was fluent in Afrikaans was trained in research ethics, data collection and the use of the three screening instruments. A second research assistant who was fluent in Xhosa was also trained in these issues. It was expected that some of the adolescents would speak these languages, as after English these are the two most common languages spoken in the Western Cape (Statistics South Africa, 2011). Following the development of the sampling frame, contact was made with the identified organisations and they were sent parental consent forms for adolescents younger than 18 years old to give to their parents (Appendix D). At the organisations that provided residential care for the adolescent participants and who were in locus parentis, a representative of the organisation

was legally able to sign the consent form. An appropriate day and time was then arranged with the organisation's staff members when it would be convenient to administer the screeners to the eligible group of adolescent participants at Time 1 and two days later, at Time 2 (excluding Mondays as substance use often occurs on weekends).

The researcher and research assistant made sure that the following occurred before the group administration of the screening tools began at Time 1. First, all signed parental consent forms were collected for all adolescents under 18 years of age who wanted to participate. Second, a private setting was secured, where the data collection was least likely to be interrupted, within the organisation's grounds. Third, all members of the organisation were asked to leave the room and the research procedure was explained to adolescents. The assent form was then read through with participants (Appendix E), and once the documents were signed they were collected by the research assistant. If adolescents did not wish to participate they were asked to leave the room. Only two adolescents refused to participate. The screeners were then administered in conditions that approximated examination conditions.

Specifically, the researcher handed out the screeners, and read the GAIN-SS, CRAFFT and PESQ item by item and explained the response categories. This is in line with the administration of these screeners in previous studies that were conducted to measure their psychometric properties (Knight et al., 1999; McDonell et al., 2009; Winters, 1992).

The screeners were only conducted in English, although research staff members were on hand to explain any items in Afrikaans or Xhosa if necessary. Participants indicated that they were happy to receive English versions of the instrumentation. This is important because the original screening instruments were in English, and it is crucial to ensure that these are reliable before translating them into other languages that are specific to the Western Cape. This should not be a problem, as most adolescents who attend school are either taught in English or are at least conversant in English. Calendars were also available to prompt

participants if they could not remember their recent substance use or other feelings and behaviours. Once participants had completed the screening questionnaires, they were checked by the researcher and then fieldworker for completeness. The participants were then provided with a gift pack to thank them for their participation, and were asked to return at the same time two days later so that they could complete the questionnaire again, and told that this was in order for the researchers to ensure that adolescents could answer the questionnaires clearly. At Time 2, the questionnaires were re-administered in exactly the same manner.

Each participant was given a unique identity number which was placed on the screener that they completed. This enabled questionnaires at Time 1 and 2 to be linked to a single participant. The researcher checked the participant's name and allocated number before they were given screeners for the second time to ensure that this linking process was possible. At Time 2, the research team returned to the organisation and followed the same process. The participants were then given a grocery voucher or care package consisting of personal hygiene products and stationery to the value of R30 once they had completed their second screening session A total of 35 adolescents (13.1%) did not return for their second screening because of extra-mural activities, extra lessons for schoolwork or for unidentified reasons (see Figure 2).

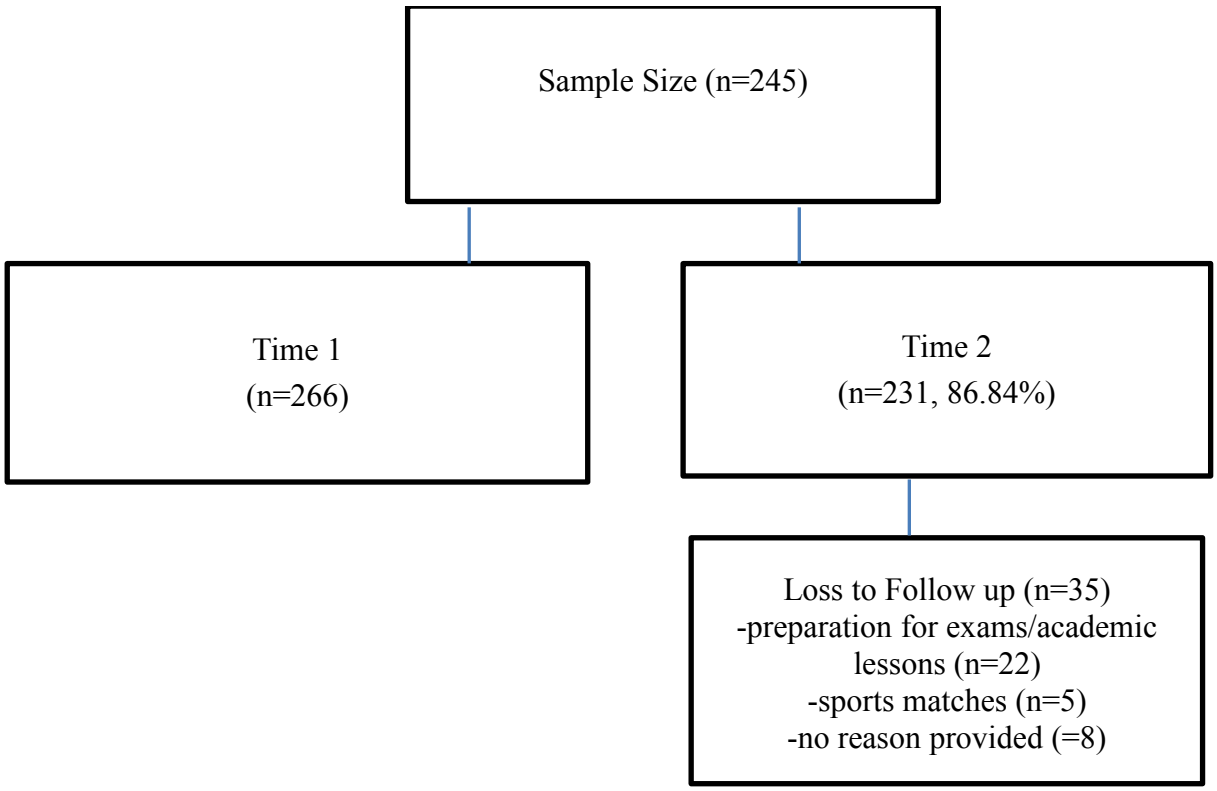

Figure 2. Flow diagram of screening process.

There were approximately 50 participants in this study that either requested assistance for, or scored in the high severity range for substance use. To score in this range indicates potentially serious substance use problems (Winters et al., 2006), and is indicative of the need for further assessment and early referral to treatment (Knight et al., 1999). These participants were provided with a referral list to community resources including substance use, mental health, legal resources and other relevant organisations. The researcher also spent some time speaking with these participants in order to gauge the severity of their problems. A clinical psychologist was available to guide the researcher through cases where the participant indicated psychological distress, such as suicidal thoughts in the past month. Although no special cases occurred, the researcher met privately with two of the adolescents following the screening process, and provided one participant with a referral to substance use treatment and another to family services.

Data Management

As soon as data collection was completed, any information that could be used to identify individual participants was removed from the screening questionnaires. The data were transported back to the researcher's office in separate folders. With regards to data management, any information that can be used to identify the learners was stored in files that were double-locked while the screening questionnaires themselves were locked in a separate cabinet. Only the principal investigator and research assistant trained in ethics had access to this information.

Data Analysis

Data were entered twice in Epidata Entry. The dual entry files were then compared by conducting validity checks and errors were corrected by looking at original questionnaires. Each questionnaire was entered for both time periods (Time 1:T1and Time 2: T2). The data were then imported into STATA 12 for analysis, and basic descriptive statistics were calculated.

The focus of this study was to establish the specific psychometric properties of the screeners. First, internal consistency was calculated for each screener using Cronbach's alpha. Acceptable alpha values range from 0.70 to 0.95 for optimal levels of internal consistency (Tavakol & Dennick, 2011). Alpha values that are too high may indicate redundancy. However, the alpha coefficient is also affected by the length of the instrument, and shorter instruments may have lower alpha values (Tavakol & Dennick, 2011). Second, test-retest reliability coefficients were calculated for each screener, as well as for separate items at T1 and T2. This was calculated with kappa coefficients and percentage observed agreement. Kappa values can be interpreted in the following way for strength of agreement: poor (0); slight (0–20); fair (0.21–0.40); moderate (0.41–0.60); substantial (0.61-0.80) and almost perfect (0.81-1.00) (Landis & Koch, 1977). Since the data were not normally

distributed according to the Shapiro-Wilk test ($p<0.01$ for all three screeners at T1 and T2), non-parametric methods were used to test if there were any significant differences between median scores of substance use and other problems at T1 and T2. Specifically, the Wilcoxon Signed Rank test was used, with a p-value of 0.05 or less indicating a significant median difference between T1 and T2 (Howell, 2002).

One aspect of criterion-based validity was then measured to assess how the screeners performed in comparison to each other diagnostically. The PESQ and CRAFFT were compared to the GAIN-SS, because although ideally the "gold standard" would be a diagnostic interview, this is based on a standardised interview and has been normed and validated in a number of settings. Sensitivity and specificity of the recommended cut-off points for problem substance use, positive predictive values and negative predictive values were calculated and compared, and receiver operating characteristic (ROC) curves of the PESQ and CRAFFT against the GAIN-SS were calculated to test the accuracy of the separate screeners for detecting substance use in this context. The area under the ROC curve was measured to determine the diagnostic ability of the screener, with a value of 0.7 and above indicating that the instrument measures substance use correctly 70% of the time (Fawcett, 2006) and was used as the minimum criteria for the current study.

Results

The following section presents the characteristics of the study sample, as well as the findings of the psychometric testing on the three screening tools.

Demographic Characteristics

Just over half of the participants were female (56.28%), and the mean age of the sample was 15 (SD=1.67). Almost equal proportions self-identified themselves as Black African (48.92%) or "Coloured" (48.48%). The majority of participants were in Grade 9

(22.61%), followed by Grade 8 (18.70%). Over a quarter of the sample was still attending primary school (27.39%; see Table 9).

The following section provides an idea of the proportion of adolescents in the sample that self-reported substance use at or were above the identified cut-off points for problem use (see above). Non-parametric testing (Wilcoxon Signed Rank Test) was also used to determine if a difference in these percentages was found from Time 1 to Time 2.

Proportion of Adolescents Reporting Substance Use and Other Problems

The proportion of participants who scored 1 (the cut-off point for problem substance use) or higher on the GAIN-SS at T1 was 56.77%. At T2 this was slightly lower at 48.48%. The results of the Wilcoxon Signed Rank Test indicated that there were no significant median differences on scores for this screener ($p=0.13$). Under half of the participants scored at the cut-off point of 2 or higher on the CRAFFT at T1 (47.74%) or T2 (43.72%). The Wilcoxon Signed Rank Test also showed that this difference was not significant ($p=0.87$). For the PESQ (where the cut-off points were 23 for those under 16 years old, and 24 for those 16 years and older), there was a significant difference between these proportions (T1: 56.02%, T2: 36.44% $p<0.001$). A higher proportion of participants therefore self-reported possible problematic substance use at T1 than at T2.

The next step was then to measure the test-retest reliability of the instruments, to see if they performed consistently.

Table 9. *Demographic Characteristics of Sample*

	Demographic Characteristics (N=231)	
Sex	N	%
Male	101	43.72
Female	130	56.28
Age		
12	7	3.03
13	51	22.08
14	36	15.58
15	45	19.48
16	43	18.61
17	35	15.15
18	10	4.33
19	4	1.73
Race		
White	3	1.30
Black African	113	48.92
Indian	1	0.43
Coloured	112	48.48
Other	1	0.43
Grade		
5	5	2.17
6	22	9.57
7	36	15.65
8	43	18.70
9	52	22.61
10	23	10.00
11	30	13.04
12	19	8.26

Reliability of the GAIN-SS, PESQ and CRAFFT

In terms of internal consistency, results were consistent across items of both the PESQ and the GAIN-SS overall, with the majority of alpha values (α) being over 0.70. However, there were some problematic alpha values with the externalising ($\alpha = 0.60$) crime and violence subscale of the GAIN-SS at T1 ($\alpha = 0.65$). Furthermore, levels of internal consistency for the CRAFFT overall as an instrument and for the substance use subsection

(Section B) were quite low (α = 0.53-0.57). It is therefore uncertain if this screener has adequate internal consistency in this population.

Test-retest reliability was similar for all three screeners (see Table 10). Kappa (*K)* values were between 0.56 and 0.62, with observed agreement between 84.0% and 91.1%. *K* values were the highest overall for the PESQ (*K*=0.62), meaning that it had the highest level of test-retest reliability and was the most consistent in its measurement of substance use. Test-retest reliabilities for the GAIN-SS subscales were highest for the substance use subscale (*K*=0.56), and lowest for the externalising disorder subscale (*K*=0.45).

Validity of CRAFFT and PESQ against GAIN-SS: ROC Curve Areas, Sensitivity and Specificity Values

Table 11 and 12 show the raw data used to calculate the various measures of validity for the screeners, in comparison to the GAIN-SS, at T1 and T2. This includes positive scores above the cut-off point for the relevant screeners for problematic use and negative scores of below the cut-off point.

Table 10. *Reliability of the Three Screeners*

Screener	Internal consistency: Cronbach's alpha and 95% Confidence Intervals at T1	Test-retest reliability: Kappa and 95% Confidence Intervals	Test-retest reliability: % observed agreement
GAIN			
Total	0.84 (0.82)	0.56 (0.48 - 0.59)	87.6
ID	0.70 (0.65)	0.52 (0.51 - 0.55)	84.0
ED	0.60 (0.53)	0.45 (0.39 - 0.51)	82.8
SD	0.81 (0.78)	0.56 (0.49 - 0.65)	89.2
CV	0.65 (0.59)	0.50 (0.43- 0.54)	90.3
CRAFFT	0.53 (0.43)	0.59 (0.53 - 0.61)	89.9
Total	0.57 (0.47)	0.57 (0.56 - 0.60)	87.6
Substance use			
PESQ	0.88 (0.87)	0.62 (0.58 - 0.64)	91.1
Total			

Table 11. *PESQ Scores at T1 and T2 in Comparison to GAIN-SS Scores*

T1	PESQ		
GAIN-SS	Positive	Negative	Total
Positive	101	26	127
Negative	49	90	139
Total	150	116	266

T2	PESQ		
GAIN-SS	Positive	Negative	Total
Positive	74	27	101
Negative	20	110	130
Total	94	137	231

Table 12. *CRAFFT Scores at T1 and T2 in Comparison to GAIN-SS Scores*

T1	CRAFFT		
GAIN-SS	Positive	Negative	Total
Positive	113	14	127
Negative	120	19	139
Total	233	33	266
T2	CRAFFT		
GAIN-SS	Positive	Negative	Total
Positive	89	12	101
Negative	107	23	130
Total	196	35	231

*Positive: The number of participants that scored above the cut-off point on the screeners, indicating the identification of potential problematic substance use.
*Negative: The number of participants that scored below the cut-off point on the screeners, indicating the identification of no substance use.

T1: We then examined the sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of the PESQ and CRAFFT in comparison to the GAIN-SS SD scale (see Table 13 below). For the suggested cut-off values, the PESQ was more sensitive meaning that the ability of the PESQ to identify those adolescents who truly have a substance use problem was 67%, while for the CRAFFT it was only 48%. Findings for the

specificity values were similar, with the PESQ being more specific (0.78) than the CRAFFT (0.58). This means that the PESQ correctly identified 78% of those who truly did not have a substance use problem while the CRAFFT identified 58% of these cases. The PESQ's PPV (0.79) was slightly lower than the CRAFFT's (0.89), indicating that for those who test positive on the PESQ, the chance that they actually have a substance use problem is 79%, while for the CRAFFT this is 89%.

Table 13. *Comparison of Sensitivity, Specificity, NPV, PPV and Correct Classification Rate by Criterion on the CRAFFT and PESQ Against GAIN-SS at Cut-Off Points*

	Time 1				Time 2			
Screener	Sensitivity	Specificity	PPV	NPV	Sensitivity	Specificity	PPV	NPV
CRAFFT	0.48 (0.42-0.55)	0.58 (0.39-0.75)	0.89 (0.82-0.94)	0.14 (0.84-0.21)	0.45 (0.38-0.53)	0.66 (0.48-0.81)	0.88 (0.80--0.94)	0.18 (0.12-0.25)
PESQ	0.67 (0.59-0.75)	0.78 (0.69-0.85)	0.79 (0.72-0.86)	0.65 (0.56-0.85)	0.79 (0.69-0.87)	0.80 (0.73-0.87)	0.73 (0.64-0.82)	0.85 (0.77-0.90)

ROC analysis was then used to determine the performance of the screeners against the GAIN-SS at their suggested cut-off points (GAIN-SS: 1; CRAFFT: 2; PESQ: 23 for younger adolescents and 24 for older adolescents). The area under the curve (AUC) showed that at 0.72 (95% CI: 0.67-0.77), the PESQ was more accurate than the CRAFFT which scored 0.51 (95% CI: 0.47-0.55) (Figure 1) at the suggested cut-off points. The difference between the PESQ and CRAFFT area under the curve was statistically significant ($X^2(1) = 38.24$, $p<0.001$), meaning that the PESQ was significantly better at correctly identifying adolescents with a substance use problem than the CRAFFT, when compared to the GAIN-SS.

T2: Table 13 also provides the sensitivity, specificity, PPVs and NPVs at T2. The PESQ was again more sensitive (0.79) than the CRAFFT (0.45), as it identified those

adolescents who truly have a substance use problem 79% of the time, in comparison to 45% of the time for the CRAFFT. The PESQ also had higher specificity (0.66), and correctly identified 80% of those who truly did not have a substance use problem in comparison to the two-thirds identified by the CRAFFT. The CRAFFT had a slightly higher PPV (0.88) than the PESQ (0.79), but a much lower NPV (0.18 versus 0.85). The results therefore indicate that for those who tested positive on the CRAFFT, the chance that they actually do have a problem with substance use was 88% but for those that tested negative, the chance that they truly do not have a substance use problem was only 18%. For the PESQ, the chance that for those who tested positive, the chance that they actually do a substance use problem was 73% and for those who tested negative, the chance that really did not have a problem was 85%.

Similarly at T2, the PESQ was found to be more accurate than the CRAFFT in comparison with the GAIN-SS, as the AUC was 0.79 (95% CI: 0.74-0.84) and the AUC for the CRAFFT was 0.53 (95% CI: 0.48-0.57) (Figure 2). This indicates that the CRAFFT only correctly identified substance use problems by chance at T1 and T2. The difference between the PESQ and CRAFFT was statistically significant ($X^2(1) = 60.96$, $p<0.001$).

If one plots a ROC curve of all the possible scores that an adolescent would be able to obtain on the screeners (from 18-72 for the PESQ, and from 1-6 for the CRAFFT) against the cut-off point for the GAIN-SS substance disorder (SD) subscale, the PESQ (95% CI: 0.68-0.84) and CRAFFT (95% CI: 0.69-0.84) AUC values are almost identical at 0.76 at T1 (see Figure 5 and 6). At T2, the AUC values were slightly higher for the PESQ (95% CI: 0.78-0.93, AUC=0.85) than the CRAFFT (95% CI: 0.74-0.89, AUC=0.81) in comparison to the GAIN-SS SD subscale but none of these differences were statistically significant. This indicates that the CRAFFT it would perform better at diagnosing substance use problems if the cut-off score was changed.

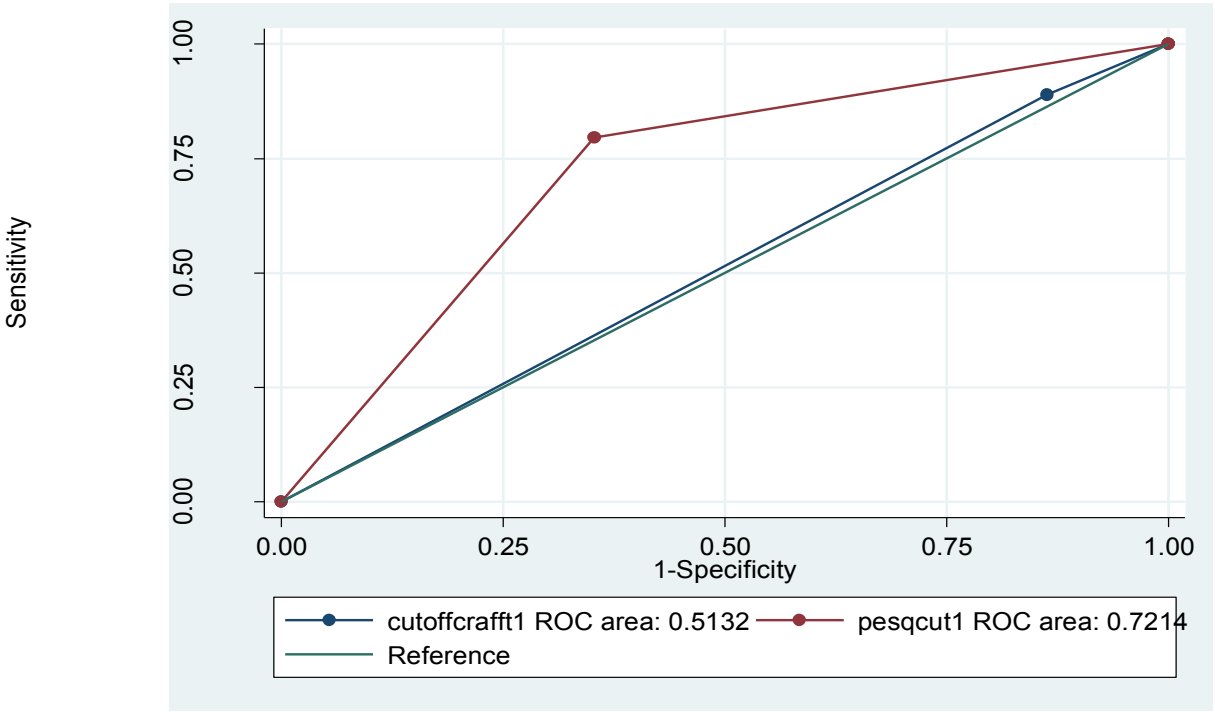

Figure 3. ROC curves for PESQ and CRAFFT against GAIN-SS at T1.

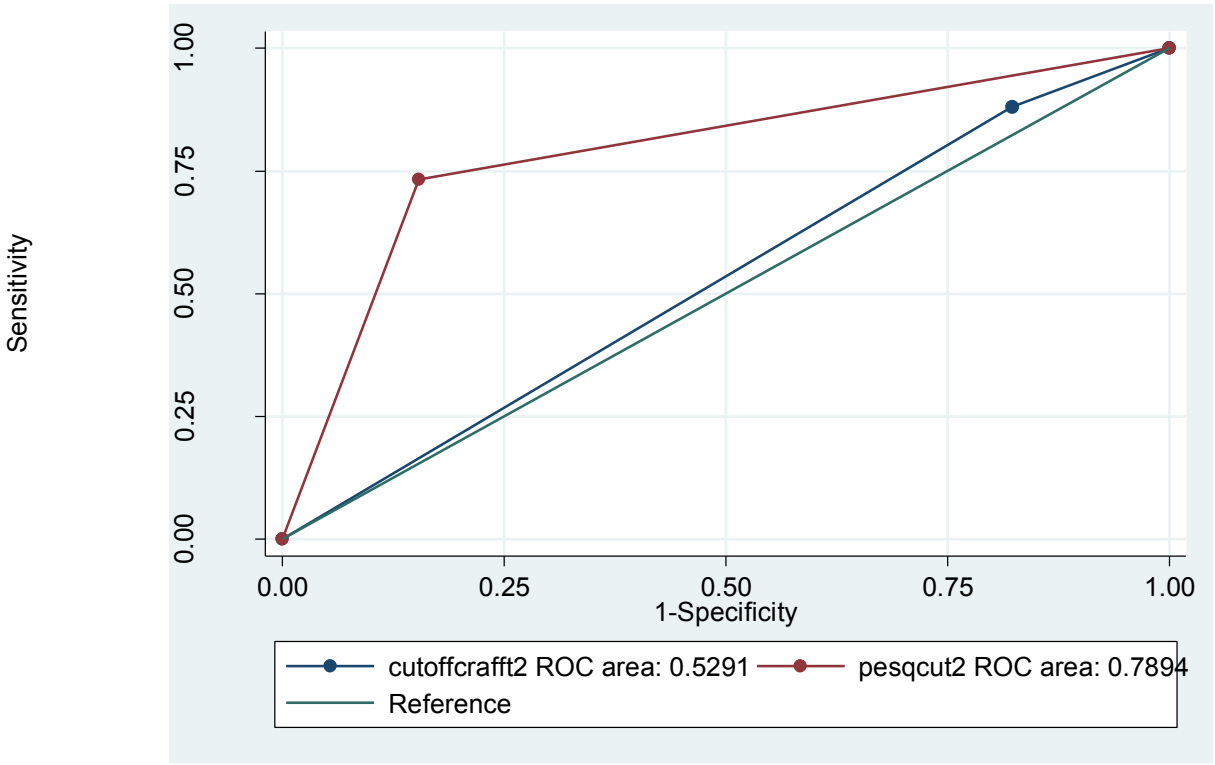

Figure 4. ROC curves for PESQ and CRAFFT against GAIN-SS at T2.

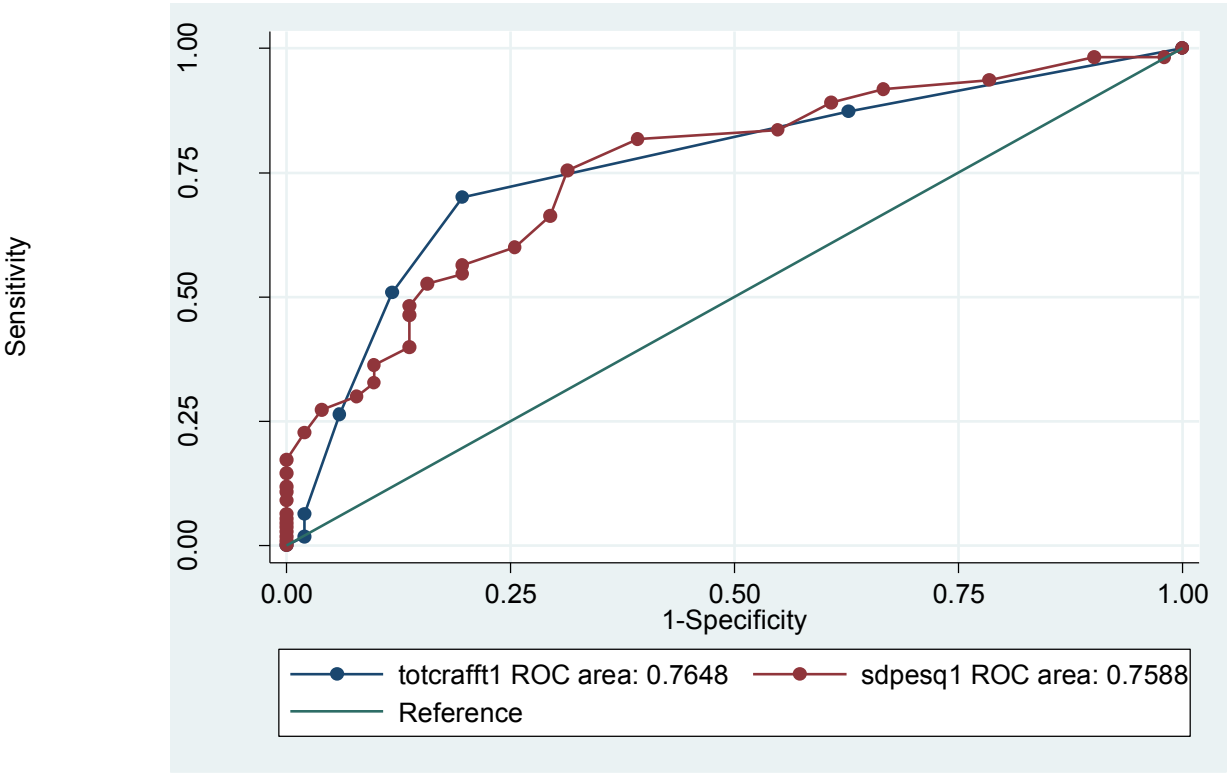

Figure 5. ROC curves for PESQ and CRAFFT totals against GAIN-SS at T1.

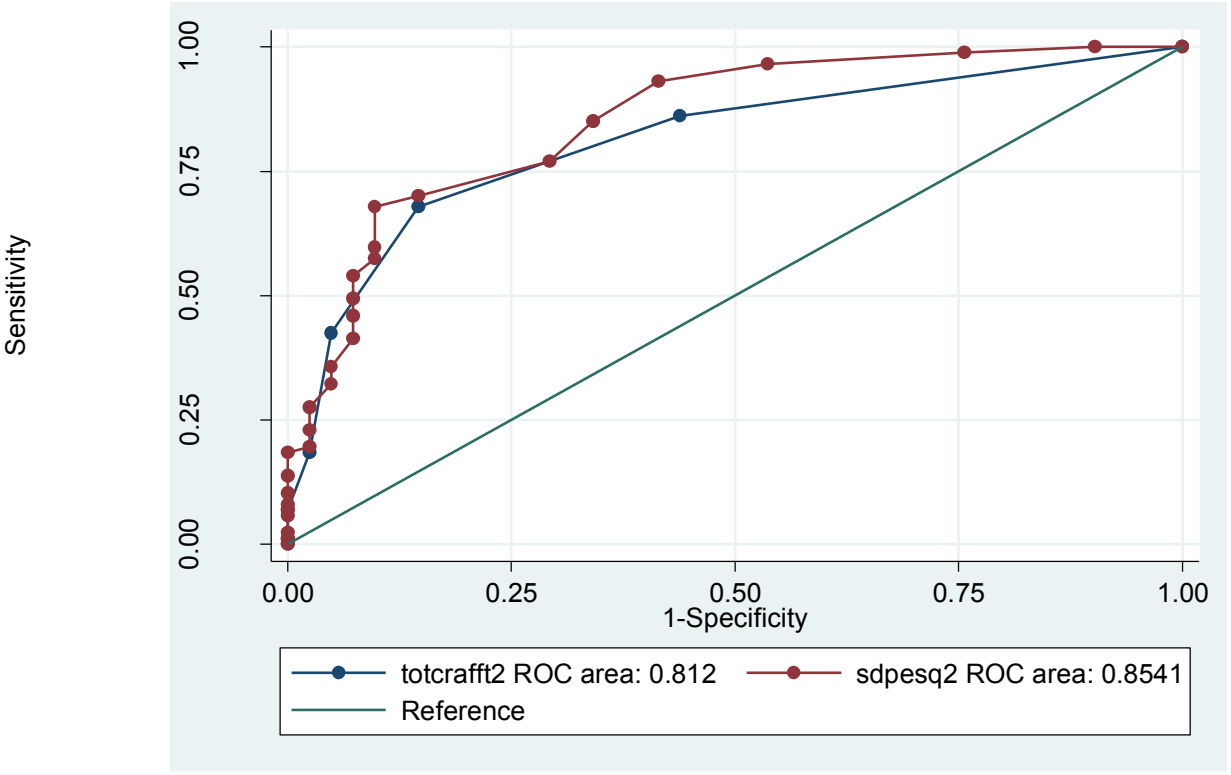

Figure 6. ROC curves for PESQ and CRAFFT totals against GAIN-SS at T2.

Discussion

Summary of Findings

This chapter described three short screening instruments that have been well-researched and often utilised as screening tools in developed countries. The study aimed to test the psychometric properties of these three screeners for a South African population. Findings indicate that in terms of their psychometric properties, all three screeners had high test-retest reliability, but the internal consistency results were more varied. While the composite PESQ and GAIN-SS scales had acceptable levels of internal consistency, the alpha values of the GAIN-SS externalising disorder sub-scale at T1 and the crime and violence sub-scale at T2 were comparatively low. The CRAFFT's internal consistency was the lowest of the three screeners, with low alpha values at T1 and T2. Although this may suggest that not all of the CRAFFT's items are useful for detecting substance use problems among adolescents, previous research has also acknowledged that instruments that are very short in length are more likely to have lower internal consistency (Knight et al., 2002; Tavakol & Dennick, 2011), and the CRAFFT is the shortest of the three screeners.

Findings for the concurrent validity of the screeners were similar. The CRAFFT did not seem like the best tool to use for screening for substance use among this South African population. While it may be easy to use, it had low levels of both sensitivity and specificity, in comparison to the PESQ when these screeners were measured against the GAIN-SS, a commonly-used screener with well-tested psychometric properties. Sensitivity is a crucial characteristic for a screener because its aim is the early detection of substance use problems among adolescents. It is also important that specificity levels are high, because previous research has shown that identifying problems that do not actually exist can be harmful for adolescents (Winters, 1992).

In summary, two potentially relevant screeners (GAIN-SS, PESQ) were identified in the current study for use in a resource-poor context, based on the PESQ's performance against the GAIN-SS. This was partly based on their psychometric rigour, as well as the criteria mentioned earlier, such as their length, as well as the fact that they were easy to administer and score. The advantages and disadvantages of both of these screeners will now be discussed in order to provide recommendations for which screener to use in this context.

Appropriate Screeners for Use

Taking into account the reliability findings, as well as the diagnostic testing, the conclusion is that both the GAIN-SS and PESQ are appropriate screeners to use with South African adolescents. Both of these instruments are reliable in this context, as they have similar levels of test-retest reliability and high levels of internal consistency. Findings that looked at the psychometric properties of the GAIN-SS (Dennis, Chan, & Funk, 2006; McDonell, Comtois, Voss, Morgan, & Ries, 2009) in the USA found that that it had similarly acceptable alpha values. McDonnell et al. (2009) also found that the crime and violence subscale had the lowest alpha values (α=0.65), which agreed with the findings of this study. Internal consistency for the PESQ was also the highest of all of the three screeners. Coefficient values were similar in the current study (α=0.91) to the two previous studies conducted in Minnesota, USA (α=0.81-0.95) (Winters, 1992; Winters et al., 2006).

In addition, the PESQ performed well in comparison to the GAIN-SS in the ROC analysis, as the area under the ROC curve indicated acceptable levels of accuracy for the PESQ. The PESQ was also found to be both sensitive and specific at both times of measurement in the current study, indicating that it does well in detecting adolescents' potential substance use problems. However, values were lower in the current study (sensitivity: 67-79%, specificity: 78-80%) than in the previous USA studies (sensitivity: 91%;

specificity: 84%) meaning that as it stands, the screener may perform better with adolescents in Minnesota, USA than with adolescents from disadvantaged communities in Cape Town.

It is also important to look at the predictive values of these screeners in addition to sensitivity and specificity. These values indicate the screeners' ability to look forward (Grimes & Schulz, 2002) and predict substance use problems. In the current study, the PESQ had good positive predictive values (73-79%) in comparison to the GAIN-SS meaning that it correctly predicts the probability of 73-79% of those who screen positive really having a problem with substance use. However, it still misses almost a quarter of those adolescents who may have problematic substance use, which is a significant proportion. The negative predictive values were 65% at T1 and 85% at T2. While the value at T2 is high, at T1 the screener falsely predicts 35% of adolescents as having a problem with substance use. This needs to be interpreted with caution when referring adolescents for further assessment.

The CRAFFT did not perform well enough to be considered for use as a screener in this context. It was found to have the lowest levels of internal consistency of all three screeners, and did not perform well against the GAIN-SS in the ROC curve analysis. While a recent South African study that utilised the CRAFFT to measure adolescent substance use did not measure psychometric properties (Moodley, Matjila, & Moosa, 2012), the findings of international research that have looked at its psychometric properties have also produced inconsistent findings. Although studies conducted in the USA found the CRAFFT to have high levels of test-retest reliability (Levy et al., 2004), and acceptable levels of internal consistency (Kelly et al., 2009; Knight et al., 2002), a German study also found the screener to have the lowest levels of internal consistency compared to other brief screeners (Rumpf et al., 2013). However, the alpha values in the German study (0.64) were still higher than in the current study (0.53-0.57).

Furthermore, low levels of sensitivity were found for the suggested cut-off score of the CRAFFT in comparison to the GAIN-SS. In this context, this means that the CRAFFT had a low detection rate of identifying adolescents who may have had problematic substance use, and only picked up 48% (T1) and 45% (T2) of the positive cases that the GAIN-SS would have identified. This was coupled with slightly higher levels of specificity, but the screener still incorrectly identified those without problem substance use. This differs from USA findings, which found the CRAFFT to have high levels of validity (Knight et al., 1999; Knight et al., 2003). However, this is similar to the studies conducted with French (Bernard et al., 2005) and German (Rumpf et al., 2012) adolescents, where the CRAFFT compared less favourably to other short screeners at its suggested cut-off score. In the current study, the CRAFFT had high positive predictive values, but very low negative predictive values. Using a tool that often screens adolescents incorrectly may be harmful to them as it can place incorrect labels on them (Winters, 1992). It is also a waste of resources if one is unnecessarily referring a large number of adolescents for further assessment. This can be expensive in terms of time and human resources (Grimes & Shulz, 2002) in a context that already has a lack of resources for substance use services (Flisher et al., 2013).

An interesting finding is that the CRAFFT performed better at a lower cut-off point of 1 in this study, and this may warrant further investigation in future studies. Bernard et al. (2005) also found higher levels of sensitivity and specificity in their study when the CRAFFT cut-off score was increased to 3. However, Knight et al. (1999) expressed concerns that changing the cut-off score would decrease specificity, which is already a concern in the current study.

Based on all of the above, the current study therefore indicates that while the CRAFFT may be an easy-to-use tool, it is not appropriate for use in its current form with

adolescents in this resource-poor context. In conclusion, both the GAIN-SS and PESQ are appropriate for use with adolescents.

The GAIN-SS has other qualities that make it a more attractive option than the PESQ. First, it has been designed as an overall measure of behavioural health (Dennis et al., 2008) and can measure additional behaviours that may co-occur with substance use, including delinquent-type behaviours. As highlighted in Chapter 2, adolescents that have such co-occurring problems are more likely to face a range of additional challenges in their lives, such as problems with treatment adherence and outcomes, and general quality of life (McDonell et al., 2009). It therefore makes sense to screen for these problems early on, so that they can be identified and referred on for additional services as soon as possible. Second, the GAIN-SS has response categories that ask when last adolescents' substance use and other behaviours occurred (Dennis et al., 2008) as opposed to the PESQ which has more subjective response categories about frequency of use. These response categories may be useful to measure severity of problems as past-month answers can be used as a measure of change, past-year responses screen for current disorders, and the lifetime measure can be used as a covariate and to measure remission (Dennis et al., 2008).

Limitations of the Current Study

It was not possible to compare the three screeners to what is usually identified in the literature as a "gold standard": namely a standardised diagnostic interview ((Knight, Sherritt, Harris, Gates, & Chang, 2003; McDonell et al., 2009; Wilson, 2004). This is costly in terms of money and time, and was beyond the resources of the current study. However, the GAIN-SS which was selected to act as the "gold standard" screener, is based on the full GAIN interview and was found to have acceptable levels of internal consistency and subscale construct validity, while ROC analyses revealed that it has sufficient sensitivity (88%) and

specificity (89%) (McDonell et al., 2009). Therefore the GAIN-SS is an acceptable instrument of comparison for the PESQ and CRAFFT.

All three of the above-mentioned screeners were originally developed in English, and the fact that they were only provided in English is another potential limitation of the current study. Despite the training provided to research staff and the thorough instructions provided to adolescents in in their indigenous language of choice, it is possible that some of the adolescents would have had a better comprehension of the screening questions if they were provided in both isiXhosa and Afrikaans. Future studies should involve a methodologically sound translation of instruments into the other two indigenous languages most commonly utilised in the Western Cape.

It is also possible that some of the adolescents were not used to the cognitive demands made on them by completing the screeners. This could be further exacerbated by a number of things, such as intoxication due to substance use, mental health issues including attention-deficit disorder, and learning disabilities or difficulties (Dennis et al., 2008). Since the aim was to evaluate the psychometric properties of the three screeners and not to assess individual problems, the group setting could have masked any potential cognitive deficits or other issues that could have affected their understanding of the questions. The GAIN-SS has a separate instrument that checks for cognitive impairment, which could avoid this problem in the future (Dennis et al., 2008). This would be especially useful if adolescents have difficulty with the recall of items, despite anchoring recall of recent substance use with the use of calendars.

Conclusion

This study identified a short screener (GAIN-SS) for substance use that is both reliable and valid for adolescent populations from poor Cape Town communities. It was shown to accurately identify adolescents who may need further assessment for substance use and delinquent-type behaviour (to be presented in Chapter 4), and benefit from receiving a

brief intervention (to be presented in Chapter 5). If adolescents screen positive on the GAIN-SS for substance use and externalising behaviour or criminal and violent behaviour, they can then be referred on for a more comprehensive assessment. The next chapter will address the importance of having an appropriately tailored assessment for these adolescents.

Another benefit of identifying an appropriate screener is that potential problem substance use can be identified and addressed quickly and early on. Screening can also prove useful for those adolescents who screen negative. Even though they will not need further assessment or referral (Substance Abuse and Mental Health Services Administration, 2011), it is important that they continue to abstain from substance use and other risk behaviours. The US Committee on Substance Use (American Academy of Pediatrics & Committee of Substance Use, 2011) recommends that these adolescents receive positive reinforcement for avoiding these unhealthy choices. It is suggested that for adolescents at high risk for substance use disorders, a negative screening result should be followed up with a re-evaluation after approximately six months.

While the current findings are valuable and contribute to knowledge on appropriate screening tools for early detection of substance use among adolescents, further investigation could enrich this knowledge even further. It is suggested that future studies compare GAIN-SS against a diagnostic interview (DSM-IV) for substance use disorders in these disadvantaged communities, with a smaller sample size, to ascertain the selected screeners (Substance Abuse and Mental Health Services Administration, 2011) are found to perform better in terms of validity. Future studies could also examine the discriminant and predictive validity of the GAIN-SS. It would be useful to assess whether adolescents who screened as high risk developed more serious problems, such as substance use disorders, or may be more likely to be arrested or incarcerated, similarly to a recent study conducted in the USA (Garner, Belur, & Dennis, 2013). In addition, it may be valuable to compare the strength of

the relationship between the GAIN-SS with other screeners that assess the same constructs, namely substance use and delinquent-type behaviour.

Chapter 4 (Study III)

Assessing Adolescent Substance Use and Delinquent-Type Behaviour

The previous chapter showed that the GAIN-SS is a reliable and valid screening tool for substance use and other problem behaviour for adolescents from Cape Town. Adolescents who screen positive for substance use or other problem behaviours should be referred for further assessment. This is because a comprehensive assessment will assist in determining what level of services adolescents who screen positive for substance use may need (Winters, Latimer, & Stinchfield, 2002). The utilisation of comprehensive assessment measures are a way of obtaining detailed information on the nature and extent of substance use as well as information about additional problems (Meyers et al., 1999; Winters et al., 2002; Winters, Stinchfield, Lee, & Latimer, 2008). This information is essential in identifying service needs that may require referral to additional services. A number of comprehensive assessment tools have been developed and used in developed countries for these purposes (Winters, 2003; Winters & Kaminer, 2008). However, it is unknown if these are relevant for use in other contexts as they generally have not been normed and validated with adolescent populations from low- and middle-income countries (Winters et al., 2002). Factors such as lower literacy rates in these countries, including South Africa (Statistics South Africa, 2012) may impact on the appropriateness of these pre-existing assessment tools.

This chapter hopes to address this gap through adapting selected assessments for substance use, delinquent-type behaviours, and other factors associated with these problem behaviours for use among adolescents residing in poor communities in Cape Town.

This chapter will describe why these comprehensive assessments for substance use are valuable, what domains they should cover and how to deliver these assessments. It will then move on to provide reasons on how the scales that comprise the assessment measure

were selected, and to describe the different scales. The process of modifying the assessment instrument for use with adolescents from Cape Town will then be explained.

Importance of Conducting a Comprehensive Assessment

Comprehensive assessments for substance use disorders are the first step in selecting appropriate services for substance-using adolescents in terms of the length, type of intervention and intensity of services needed (Kaminer & Winters, 2011). This is because information is collected during the assessment that is used to determine the nature and severity of substance use, the presence or absence of a substance use disorder, and to identify psychosocial risk factors that may predispose an individual to the initiation and continuation of substance use (Levy et al., 2007; Meyers et al., 1999).

A comprehensive assessment can also assess the impact of substance use on other areas of functioning, such as family life, mental health comorbidities, and education and other environmental risk factors (Winters et al., 2002). While substance use is clearly the primary domain of interest, there are a number of other domains that are important to an adolescent's functioning. Failure to include additional content domains will only provide a partial picture of the adolescents' functioning, which may result in treatment with a narrow focus (Meyers et al., 1999), meaning not all problem areas will be addressed. The following content domains have been strongly recommended for inclusion (among others) in comprehensive assessments of adolescent substance use: substance use problem severity, family life, delinquency and information on peers (Meyers et al., 1999; Winters et al., 2002; Winters, 2003).

Since brief interventions (BIs) are designed to work as stand-alone services with adolescents who do not yet meet criteria for a severe substance use disorder (Winters & Kaminer, 2008), selecting these adolescents through comprehensive assessment into BIs means that that they are more like to be successful. For adolescents who do meet these criteria, they can be referred to more intensive treatment. Knight and Harris (2007)

recommend that in terms of level of care, adolescents with a substance abuse diagnosis receive outpatient treatment while those with a diagnosis of severe substance use disorder should be referred on for even more intensive treatment.

Another important use of comprehensive assessment instruments is to measure the effectiveness of BIs (Babor, 2007). Comparing substance use and other problem behaviours before the administration of a BI (pre-test) and afterwards at follow-up appointments (post-test) should indicate if changes in these behaviours occurred (Winters et al., 2007).

Comprehensive assessments therefore play an important role in evaluating the level of care necessary for substance-using adolescents, including if they are appropriate candidates for BI, and when administered over multiple points in time can be used to assess if the allocated BI was effective. The method of administration of these measures should also be considered, which will form part of the next discussion.

Method of Administration

Comprehensive assessment measures can be self-administered in the form of multi-scale questionnaires, or administered by an interviewer (Meyers et al., 1999; Stone & Latimer, 2005; Winters, 2003; Winters et al., 2002). The method of administration may have an effect on participants' willingness to disclose their substance use behaviour. Existing literature suggests that self-administered questionnaires are generally equated with higher levels of reported substance use behaviours than interviewer-administered instruments (Martin & Winters, 1998; Stone & Latimer, 2005). However, a recent study found that reported rates of substance use can be comparable across the two methods of administration, (Stone & Latimer, 2005).

Rates of substance use disclosure are influenced by the interviewer's skills. First, empathy is important in promoting self-disclosure (Winters et al., 2002). Honest reporting of problem behaviours can increase if the adolescent builds rapport with their interviewer

(Meyers et al., 1999). Second, the interviewer must be able to pick up on nonverbal cues such as emotional and physical characteristics during an interview, which may in turn prompt more questioning (Winters et al., 2002).

Therefore if interviews are conducted by a skilled interviewer, they may lead to similar levels of self-reported substance use as using self-administered questionnaires. Interviews may also have the additional advantage of taking varied literacy levels into account, which may impact on adolescents' ability to complete self-report questionnaires accurately (Winters & Latimer, 2008). This could be important in disadvantaged communities in the greater Cape Town region, as 44% of respondents over the age of 15 in a general household survey indicated that they had some difficulty in in completing forms (Statistics South Africa, 2012). Therefore it makes sense to utilise an interview-administered assessment tool in this context, while recognising that the accuracy of data collected by an interviewer-administered questionnaire will depend on the expertise of the interviewer.

Development of New or Modification of Existing Comprehensive Assessments

There are a number of existing tools that are available for the assessment of substance use among adolescents. These have been found to be psychometrically sound, have been normed and validated and are easy to use (Winters et al., 2002). Reference guides for these potentially relevant assessments are also widely available for use (Center for Substance Abuse Treatment 1998; Kaminer & Winters, 2011; Winters, 2003; Winters et al., 2002).

The development of a new comprehensive assessment tool can be costly in terms of technical expertise, time and resources (Winters et al., 2002). Since a number of assessment measures already exist, it does not make sense to waste resources on duplicating tools that already exist, especially in contexts where resources are limited.

One limitation is that existing substance use assessment instruments might cover some risk factors and substance use behaviours, but not address other domains of interest

such as problem behaviour related to substance use (Winters et al., 2002). For this reason, this study aims to combine a number of additional recognised assessment tools to the selected substance use instrument in order to have a comprehensive assessment measure available.

Selection Criteria for Comprehensive Assessment Tools

A number of additional criteria have been proposed to guide the selection of instruments for inclusion in a comprehensive assessment. First, as discussed above, the assessor should have the relevant skills and training levels to be able to administer the assessment. Second, one needs to ensure that the reliability and validity of each scale included in the assessment is acceptable (Martin & Winters, 1998; Meyers et al., 1999; Winters et al., 2002). For the purposes of the current study, instruments were selected that were already widely-used and standardised (Leccese & Waldron, 1994; Winters et al., 2002). The use of established scales also allows for a comparison of findings across various settings.

Selection of instruments to assess substance use. There are a number of existing standardised instruments that can be used for the comprehensive assessment of substance use and related problem behaviours. The Global Appraisal of Individual Needs (GAIN-I) (Dennis, Funk, Godley, Godley, & Waldron, 2004; Dennis, White, Titus, & Unsicker, 2008), the Teen Addiction Severity Index (T-ASI) (Kaminer, Wagner, Plummer, & Seifer, 1993) and the revised version, T-ASI-2 (Brodey et al., 2008), and the CASI-A (Meyers, McLellan, Jaeger, & Pettinat, 1995) have been identified as comprehensive instruments with acceptable psychometric properties (Winters et al., 2003). However, it was decided not to use these instruments for the following reasons. First, both require additional training for the assessment because they are semi-structured interviews which allow for unstructured probing from the interviewer (Winters & Kaminer, 2008), which requires a certain level of clinical skills and training. In addition, the T-ASI, CASI-A and the GAIN-I are long and can take upwards of 90 minutes to complete, (Winters, 2003) which places a considerable burden on

adolescents. The GAIN-Q3-2 (Titus et al., 2013) is a comprehensive instrument that has potential for use with adolescents. However, this is a very new assessment tool, and it would need to be further tested in community settings, especially in delveoping countries.

The Adolescent Diagnostic Inventory (ADI). The ADI (Winters, Stinchfield, Fulkerson, & Henly, 1993) was the primary measure of substance use selected for this study because it is easy to administer and score, and has acceptable psychometric properties, and administration and scoring instructions. It is also a structured interview as opposed to a semi-structured interview (Winters, 2003), meaning that there is less room for assessors to make errors. In addition, the ADI was developed so that lay persons as opposed to mental health professionals, can conduct the interview, and also to decrease the amount of discretion interviewers use in wording questions and using probes (Winter et al., 1999). This is an attractive instrument to use in contexts with limited numbers of mental health professionals, such as South Africa. It has also been compared to a "gold standard", namely the updated DSM-III and DSM-IV, and performed favourably (kappa values of 0.61 and 0.62) (Winters, Latimer, & Stinchfield, 1999).

The ADI is a multi-axial tool that includes the following domains: background information, socio-demographic factors, psychosocial stressors, substance use history in terms of alcohol, cannabis and other drugs, and symptoms of these substances of use, level of functioning and orientation and memory screening. The ADI provides clear guidelines on how to use and score the instrument (Winters, Henly, & Silverton, 1993) which makes it easier for interviewers to administer it to adolescents. The instrument consists of two to four questions for tobacco, alcohol and substance disorder, followed by a number of questions around the frequency of use (Winters et al., 1999). Response categories are mainly "yes" and "no", with brief responses for certain questions. This means that adolescents can quickly be

scored to see whether they fit the criteria for early interventions or need additional referrals to treatment.

It has been shown to have acceptable psychometric properties, as reliability and validity have been established. Previous studies have shown that kappa values for inter-rater reliability were between 0.66 and 0.97(Winters et al., 1999; Winters et al., 1993). Test-retest kappa values were found to be between 0.52 and 0.79 (Winters et al., 1993). These studies also looked at various types of validity. When compared with experienced clinician's DSM-III's rating of adolescents against the ADI, the interview had good levels of criterion-related validity, as kappa values were between 0.71 and 0.82. In addition, measures indicated that the ADI performed well, with significant differences found between no diagnoses versus abuse, no diagnosis versus dependence, and abuse versus dependence comparisons on the instrument (Winters et al., 1993).

Self-Report Delinquency Scale (SRDS). This instrument measures assault (serious and minor), property (serious and minor) damage, public disorder, status offenses, drug sales and other delinquent acts. It consists of 269 items (Huizinga, 1991). The questions have a recall period over the previous 12 months (Piquero et al., 2002), and responses are mainly "yes" and "no". Scoring the SRDS usually consists of adding up the frequencies to get a total delinquency measure, giving more weight to more serious offences (D. Huizinga, personal communication, 29 October 2013).

Frequency questions are also included, as well as a choice of who else was involved in specific acts of delinquency. The design of the scale also corrected a number of methodological problems that existed with previous self-report studies and has been greatly instrumental in improving the measurement of self-reported delinquent behaviour (Thornberry & Krohn). It has also been shown to have acceptable psychometric properties (Huizinga & Elliott, 1986, 1999), such as test-retest reliability measures of 0.52 (for theft) to

0.93 for illegal services, with a mean correlation of 0.74 for the instrument (Thornberry & Khron, 2000). Further rationale for the use of this scale is that much of what is known today about adolescent delinquency has been informed by these self-report measures (Piquero et al., 2002). It has been widely used, with a number of large-scale surveys having utilised this scale, or some version of it, such as the National Youth Survey (Adams, 1996; Demuth, 2004). It is therefore seen as an acceptable and recognised measure of delinquent-type behaviour.

Alabama Parenting Questionnaire (APQ). The APQ measures parenting practices that have been linked to behaviour problems. There are parallel versions for the adolescent and parent to complete (Shelton, Frick, & Wootton, 1996). The instrument consists of 42 items that are organised into five subscales: parental involvement (10 items), positive parenting (6 items), poor monitoring or supervision (9 items), inconsistent discipline (6 items) and corporal punishment (3 items). In addition, there are seven questions on other types of punishment. These are rated on a 5 point scale measuring frequency of occurrence, with possible responses ranging from "never" (1), "almost never" (2), "sometimes" (3), "often" (4), and "always" (5) (Frick, Christian, & Wootton, 1999).

The instrument has been found to have acceptable psychometric properties, especially for the adolescent version of the APQ (Barry, Frick, & Grafeman, 2008; Frick et al., 1999). This includes discriminant and predictive validity. In terms of discriminant validity, the instrument has been found to be able to differentiate between clinical and nonclinical groups of adolescents (Frick et al., 1999; Shelton et al., 1996). Scores on the APQ were found to significantly predict child symptoms of oppositional disorder and conduct disorder (R^2: 0.24) (Frick et al., 1999).

In terms of reliability, overall, the APQ scales had acceptable levels of internal consistency, with the results of a recent study that was conducted in Germany indicating

alpha coefficients were above 0.70 (Essau, Sasagawa, & Frick, 2006). The exception is the corporal punishment subscale (alpha coefficients of 0.41 to 0.58). Test-retest reliability has also been found to be acceptable, with alpha values of 0.70 to 0.87 found in the children's report of the APQ in Shelton et al.'s (1996) study.

Peer Chemical Environment Scale (PCES). The PCES inquires about substance use among peers. It is an 8-item scale that contains questions about the use of alcohol and other drugs by the adolescent's peers (Stinchfield & Winters, 2003). The responses are on a four point Likert scale: "strongly agree" (1), "agree" (2), "disagree" (3) and "strongly disagree" (4) (Winters, Latimer, Stinchfield, & Egan, 2004).

Previous studies have found that the scale is predictive of delinquency (Stinchfield & Winters, 2003; Winters et al., 2004) and treatment outcomes among substance-using adolescents (Winters et al., 2008). It also has acceptable psychometric properties. Reliability has been measured in a number of studies. Internal consistency has been found to be moderate to high, with alpha values varying between 0.71 to 0.86, and higher values being recorded for females and White adolescents (Botzet, Winters, & Stinchfield; Stinchfield & Winters, 2003; Winters et al., 2004). Test-retest reliability was found to be slightly lower, between 0.67 and 0.73 (Winters et al., 2004). In terms of validity, predictive validity has been assessed for this scale. In combination with two other scales, it was shown to account for 18% of the variance in substance use frequency at follow-up among adolescents who attended treatment (Stinchfield & Winters, 2003). Botzet et al. (2006) also found that this scale had acceptable levels of convergent validity, with correlations between the PCES and the Prior Drug Use Frequency scale being between 0.41 and 0.51.

Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) Version 8). This scale is a measure of motivation for change, which can impact on how responsive adolescents may be towards treatment (Maisto, Chung, Cornelius, & Martin, 2003; Maisto et

al., 2011). The SOCRATES 8-D consists of 19 questions which are divided into the following sub-scales: ambivalence, recognition and taking steps (Miller & Tonigan, 1996). The recognition sub-scale is associated with the pre-contemplation stage of behaviour change, the ambivalence sub-scale is associated with the contemplation stage and the taking steps sub-scale is linked to the action and maintenance stages (Slesnick et al., 2009). The responses are dividing into the following five-point Likert scale: "strongly disagree" (1) "disagree" (2), "undecided/unsure" (3), "agree" (4) and "strongly agree" (5). The total score indicates the adolescent's overall motivation for change, with a higher score indicating a higher motivation to change behaviours (Sutton, 2001)

This scale has been used with substance-using adolescents with delinquency issues, such as adolescents that have run away from home (Slesnick et al., 2009). It has also been used in developing countries, including South Africa, although only with adult substance users (Myers, Louw, & Pasche, 2010) and Brazil with adolescent substance users (Williams & Nowatzki, 2005). In terms of psychometric properties, the SOCRATES scale has acceptable levels of reliability among adults (Miller & Tonigan, 1996), as the tool was originally developed to assess readiness to change among adult populations. Internal consistency was measured using Cronbach's alpha, and found to be between 0.60 and 0.85. For test-retest reliability these values were between 0.82 and 0.94. Two studies also indicated that the measure has acceptable psychometric properties for substance-using adolescents (Maisto et al., 2003; Maisto et al., 2011), with alpha coefficients between 0.88 and 0.93. Although conducted with adults, there was some information on the psychometric properties for this measure in a Cape Town study (0.93-0.95) (Myers et al., 2010).

Thus there are available instruments that measure substance use, delinquent-type behaviours, parenting practices, peers' substance use and readiness to change scale. All of the instruments identified above have acceptable psychometric properties. The question that

remains is what refinements are needed to ensure that they are suitable for use among adolescent populations in South Africa.

Aim of the Study

In this chapter the selected instruments described above are examined, using iterative procedures with a number of stakeholders to refine them for use with adolescents from Cape Town. This will be followed by a method of rating the revised instruments to informally measure face validity in this context. This study addresses Study III's aim (see Chapter 1).

Process of Modification of Comprehensive Assessment Instruments

The selected instruments that comprised the assessment battery were adapted for use with adolescents in Cape Town, South Africa. This process took place over a six month period and involved both experts in the field of adolescent substance use and other problem behaviours as well as adolescents representing the target population. The process of adaptation will now be discussed in detail.

Step 1: Expert Meeting

Expert panels have been utilised previously to identify and adapt measures of substance use among adolescents (Cavanaugh & Doucette, 2004; Mark et al., 2006). The use of a multidisciplinary expert panel with knowledge and experience in working with adolescents was therefore the first step in adapting the assessment battery. In the current study, an expert panel meeting was held to obtain feedback on the selected instruments proposed to form part of a comprehensive assessment for adolescents who are identified by the screener (Chapter 3) as eligible for the selected BI (Chapter 5). Another objective was to provide recommendations on how to adapt these measures to ensure that they are culturally appropriate and easy to use with adolescents.

For the expert meeting, ten participants based in Cape Town, South Africa were invited to participate in a face-to-face meeting. Seven were able to participate in the expert

meeting. Three participants had substantial experience in substance use service delivery, another two had experience in other adolescent developmental issues, and two focused on crime and violence. In addition, three of the participants had extensive experience in early, brief intervention and two had knowledge and experience in programme evaluation. Participants were from a range of institutions, including academic, research, government and clinical settings. Prior to the meeting, all of the instruments were combined into one document and sent to the panel. The agenda for the meeting included a presentation on the background to this study (as presented in Chapter 1 and 2) and planned activities within the SBIRT framework. The expert panel was given three tasks for the meeting: 1) to rate the planned assessment battery on face validity; 2) to provide feedback on structural issues; and 3) to discuss if any cultural tailoring was necessary.

In terms of face validity, the participants were asked to rank each included instrument on how well they measured various constructs of interest, primarily substance use, delinquent-type behaviours and correlates of these behaviours among adolescents in this setting. Participants were also asked for feedback on the structure of the instruments, such as if they are an appropriate length for adolescents in the Cape Town setting, whether adolescents would understand the questions contained in the assessment battery, and whether the order of questions could be improved. Finally, cultural issues referred to whether the question itself, and terminology used was appropriate for adolescents from this setting. Participants were asked to comment on cultural issues such as if the types of services mentioned in the original questions were applicable in Cape Town and if there were other substance use practices that adolescents participated in.

Adaptation based on expert panel feedback. Table 14 contains the changes that were made to the instrumentation based on the feedback from the expert panel (see Appendix F for the show cards). The majority of comments were around the ADI and SRDS, which

contained the largest number of questions out of the assessment instruments. Following these relatively minor changes that were made based on the results of the expert panel, the next step of the adaptation was testing the instrument with adolescents.

Table 11. *Adaptations Based on Expert Panel Meeting*

Instrument	Modification
General	• *Addition of show cards:* having visual content that contained the response categories to the questions was suggested for responses where there were more options than "yes" or "no". The adolescents therefore had a comprehensive list of response options for specific questions that were numbered (for example, "see Showcard K1") and could follow these in order to choose the most appropriate response instead of having to remember all of the options. • *Skip patterns:* the expert panel gave feedback that skip patterns should be checked so that they all referred to the relevant questions (in ADI and SRDS) • *Introduction scripts:* it was suggested that more detailed introduction scripts were added to the battery, especially when transitions to the next section occurred.
ADI	• *Deletion of mental health section:* the Mental Health Section of the original ADI, which included questions on depression, mania, eating disorders, attention-deficit hyperactivity disorder and other hyperactive behaviours and anxiety, was excluded. Although these behaviours are important to indicate issues of co-morbidity, this was not the focus of the current study.
SRDS	• *Order of items:* certain questions of the SRDS were seen as sensitive, such as those that asked about forced sex. It was suggested that they were moved closer to the end of the instrument, giving the interviewer a chance to ask less threatening questions first and build rapport with the adolescent.

Step 2: Pre-testing (Understanding the Assessment Measures)

Pretesting instrumentation is valuable for adapting measurement tools for a number of reasons. First, it provide information on respondents' level of understanding of the questions that they are being asked (De Leeuw, Borgers, & Smits, 2004; Willis, 1999). This is important because individuals often misunderstand words or concepts (Collins, 2003). Second, it can provide additional information on cognitive processes that are in play when questions are asked to participants, such as their ability to recall information, if the respondent answers questions honestly, and if the response categories clearly contain the respondent's answer (Willis, 1999). The results of pre-testing can therefore inform item selection and adaptation, as well as how to frame questions and instructions.

In the current study, this involved administering the assessment measures among substance-using adolescents and obtaining their feedback on their understanding of items contained in the assessment, the assessment format (including language, order of questions and response categories). One of the limitations of this type of testing is that it has not really been standardised and there are no strict guidelines. It is therefore recommended that a number of respondents pre-test the measures to ensure that they have a good understanding of the questions (Collins, 2003) until there is saturation when it comes to the participants' responses. One also needs to try to reach a range of adolescent participants, in terms of age, gender and socio-economic background (Willis, 1999) in order to be confident that the items included in the assessment battery are meaningful for the total target population.

In the current study, targeted adolescents from low-income communities in the Metro North Districts of Cape Town were screened using the GAIN-SS (identified in Chapter 3) (to match Chapter 3). The first 20 that tested positive and were able to participate in further study activities then pre-tested the comprehensive assessment instrument.

Two fieldworkers were trained in how to administer the screening instrument (GAIN-SS) identified in Chapter 3, and also received training on basic ethical issues. At the beginning of recruitment, the field workers visited the communities to assess where adolescents congregate. Safety measures were considered, with the two fieldworkers visiting the areas together, and ensuring that they knew the exit routes well in the communities that they visited. This is a key point because certain neighbourhoods in these communities are known to have high levels of gang activity and crime (Department of Community Safety, 2012). They also wore project t-shirts, so that they were easily identifiable by individuals. After talking to some adolescents informally, as well as staff that worked in public libraries that often saw adolescents, the field workers identified a number of neighbourhood places where adolescents are known to congregate outside of school hours, including outside libraries, sports grounds (such as public basketball courts) and other public spaces identified by adolescents themselves.

Field workers approached adolescents and introduced themselves. They then provided adolescents with a brief description of the project, and requested if they could ask them a few questions if they had the time. The GAIN-SS was then used to briefly screen adolescents to determine if they were eligible for pre-testing activities. The inclusion criteria stated that they had to be aged 12-19 and still attending school (preferably high school), had used substances at least once in the previous month *and* engaged in delinquent behaviour or criminal or violent behaviour in the previous six months. According to the GAIN-SS, adolescents who screened negative were thanked for their time and reminded that all of their information would remain confidential. Those who screened positive and met the inclusion criteria were read a script, in which they were given more details about the study, asked if they were interested and provided with a time and place for their pre-testing appointment. They were also asked for their contact details.

A large number of adolescents were screened (n=191), with 72 being ineligible, and a number being disinterested, unable to attend or unable to obtain informed consent from their parents (n=119) before the appointment. The final sample of 20 consisted of 9 females and 11 males aged 13 to 16 years old.

Those adolescents who were eligible and interested in pre-testing the instrumentation were provided with a parental consent form (see Appendix D) which they had to return on the day of the study activity, signed by at least one parent or guardian. Adolescents could only participate if they brought the signed parental consent form with them.

All pre-testing appointments took place in a private room within the communities' public libraries, and with only the adolescent participants, the researcher and the research assistant present. At their appointment, adolescents firstly needed to complete an assent form (Appendix G) which explained what the interview questions would entail, how long it would take, and the risks and benefits of participating. It also explained that the aim of the interview was not to find out about their problem behaviours, but rather to find out how well adolescents with problem behaviours understood the interview questions, and if they had any recommendations to improve it. A copy of the assent form (in English or Afrikaans) was given to adolescents and the researcher or trained research assistant then read through the form with them. Adolescents were asked if they understood the assent form, if they had any questions, and to summarise the content of the assent form in certain cases where the staff were unsure of their cognitive ability.

Assent was completed by all adolescents before the interview began. Each adolescent was interviewed individually, in order to assess how long it took one adolescent to complete the measure, and also so that they were not influenced by their peers' answers to any of the questions. The instruments that made up the assessment items were not translated into Afrikaans, as this was outside the scope of the current study. However, a research assistant

was always present to explain questions that adolescent participants did not understand in English.

The researcher asked the questions to the participants instead of them reading on their own, so that issues of understanding were not confounded by the reading levels of the adolescents. In terms of comprehension of items (Collins, 2003; De Leeuw et al., 2004; Willis, 1999), participants were asked if they understood the questions that they were being asked. They were also asked to paraphrase what the question was asking (Willis, 1999) if the researcher had any doubts about their understanding of specific questions. They were also asked if specific questions were difficult to answer, and if they had any suggestions to make them easier, including the use of alternative terms. Adolescents were also asked if there were any issues with recall (Willis, 1999). The interviewer asked them how they remembered when certain problem behaviours began and last occurred. A calendar was on hand for the adolescents to utilise in case they had trouble remembering their participation in behaviours over the past 12 months, and times were anchored with significant events such as school holidays, birthdays and school social events.

On average, interviews took an hour to complete, with the longest lasting up to an hour and a half. Both the researcher and research assistant took notes on problematic questions, and suggestions for change. Upon completion of the exercise, adolescents were provided with a R50 grocery store voucher to thank them for their participation. Two of the female participants were identified as having suicidal thoughts in the previous month. In these cases, the researcher consulted with the clinical supervisor on the project immediately. Risk of immediate danger was assessed as being low and participants were referred to psychological services within their community.

Adaptation following pre-test interviews. Upon completion of each day of these interviews, the researcher and research assistant met to discuss their notes. The researcher

then made iterative changes to the assessment battery after each round of interviews to pre-test the instrumentation (Willis, 1999), and the revised version was used with the next set of adolescents. Table 15 describes the changes that were made following these interviews with the adolescents.

Step 3: Delphi Method

The final step of the adaptation process was a Delphi panel that was assembled to rate the final comprehensive assessment after changes had been made based on the results of the interviews with adolescents. The Delphi method is a structured research process that acquires the judgments of experts by using a series of questionnaires to obtain their feedback (Pulford, Adams, & Sheridan, 2009; Skulmoski, Hartman, & Krahn, 2007). It is primarily interested in the decision made by the group of experts as a whole, as the key is shared knowledge (Pulford et al., 2009). The method has been used in a number of settings, including with substance use measures (Pulford et al., 2009). The method has the following advantages: first, experts that take part in a Delphi process remain anonymous to each other (Hasson, Keeney, & McKenna, 2000; Hsu & Sanford, 2007; Pulford et al., 2009), so that a dominant expert is less likely to influence the outcome of the feedback process, which can happen at face-to-face meetings. Because the panel does not need to attend a physical meeting, this saves on resources. The Delphi method is a therefore a cost-effective way to reach group consensus (Pulford et al., 2009). The second advantage of using the Delphi method is that the size of the panel can be modest (Okoli & Pawlowski, 2004).

Table 12. *Adaptations Based on Pre-Test Interviews to Understand the Assessment Measures*

Modification	**Description (and example)**
Addition of visual content	A picture of a standard drink was added to the show cards, by volume of alcohol (Showcard A5, Appendix F). This aimed to show adolescents how much alcohol constituted one serving size
Structural changes	The skip patterns were adapted to ensure that they instructed the interviewer to the correct question if any follow-on questions were to be skipped. For example, there is an instruction to skip Q7-12 on the ADI if adolescents indicated no lifetime problems with substance use.
	Introductions to each section were expanded upon for ease of transition to each section and to let adolescents know that they were moving on to another topic. After pre-testing, the researcher also thought it would be useful to provide instructions to remind interviewers that they were only to complete certain sections if the participants had met certain criteria. For example, questions on alcohol abuse or dependence would only be asked if the participant had drunk alcohol five or more times.
	Certain response categories were provided with additional instructions or expanded upon. For example, when the question asked "how many" the instructions were expanded to include "choose a number from 0 to 100", so that the response included an actual number, and not just an estimate such as "a lot". Clear instructions were also provided for response options where adolescents could choose more than one response, to include "circle all that apply" (see Appendix H for the revised assessment battery).
Language and terminology changes	More colloquial terms were added which were easier to understand according to adolescent participants, for example, the term "mom" instead of "biological mother". The adolescents also recommended the addition of terminology that is commonly used in the greater Cape Town context. For example, "tik" and "lolly" for methamphetamine, and "buttons" or "pille" for Mandrax (methaqualone). Certain Afrikaans colloquial words were also recommended for the questions, such as "babbelas" together with hangover, and "tokkie vang" in addition to hallucination. Finally, some of the sentence structure needed to be simplified, as adolescents had difficulty understanding the question even after it was directly translated into Afrikaans, therefore indicating that it was not a language issue. For example, some of the questions in the ADI that asked (Section D Question 41 and 42) about the effect of substance

	use on physical disabilities or medical problems were simplified.
Order of Items	The researcher felt that the current order of the ADI needed to be re-arranged to make the flow of the questions easier. First, alcohol use questions (Section C) were followed by the section on alcohol abuse and dependence (Section D), and likewise for cannabis and other drugs sections. The adolescent participants agreed that it made sense to first talk about use of the substance, and then go into greater detail about the severity of their use.

This is useful if there are a relatively limited number of experts who have knowledge of the topic at hand. In this case, the expertise required would be adolescent substance use and problem behaviours, with a focus on the assessment of such behaviours. There are indeed a limited number of experts in this field, especially in South Africa. Third, Delphi panels have been used extensively in a number of areas across health care (Hasson et al., 2000; Pulford et al., 2009). For example, Delphi methods have been used to inform the development of certain child and adolescent measures, such as a health-related quality of life multidimensional measure (Herdman et al., 2002) and criteria for injury indictors which will inform prevention strategies (Pike et al., 2010). This increased the researcher's confidence in the use of this method for the current study.

For the current study, ten local and international experts who have experience working with adolescent substance use and delinquency measures were contacted to participate in Step 3 of the study (two of whom also took part in the expert panel). Seven of these experts agreed to participate and were then sent the revised assessment as well as a rating sheet (see Appendix I). This sheet contained a number of questions about each instrument, and required participants to rate each item from "Strongly Disagree" (1) to "Strongly Agree" (5) on whether the instruments contained in the assessment measured the relevant constructs, were culturally acceptable in the Cape Town context, and were appropriate in length. They were also asked to include additional, qualitative comments if

these were relevant. The members of the Delphi panel were anonymous to each other. Once the rating sheets were completed, the researcher calculated an average score out of a possible total of 5 (see Table 16), for each measure overall, as well as for their length and cultural acceptability. All mean scores were at least 4 ("Agree") and above, with the exception of the length of the ADI and SRDS, which were 3.7 and 3.8 (with 3 being "Unsure") respectively.

Final addition and deletion of items. Following the feedback from the Delphi panel, a number of questions about theft were cut back from the SRDS. This is a major change to the measure, and may have an impact on its psychometric properties. The reason for this was that these questions were generally focused on criminal activities and measure more serious behaviours than the delinquent-type behaviours that were the secondary outcome of interest in this study. The mental health section from the ADI was also removed, as this was not the main focus of the current study. In terms of the APQ, after comments on the length and repetitiveness of certain questions by adolescents themselves (although these did not necessarily match the ratings provided by the Delphi panel), it was decided to use a shorter version of the APQ, which has been used in previous studies and was developed by the University of New Orleans. There were no deletions or additions to the other two measures.

Table 13. *Delphi Panel's Mean Ratings*

Measure	Mean Score (From 1-5)	Additional Comments
Adolescent Diagnostic Inventory		
Overall	4.6	Uncertainty if withdrawal symptoms were suitably covered
Cultural Acceptability	4.5	
Length	3.7	Too long
Self-Report Delinquency Scale		
Overall	4.6	Uncertainty if questions on cheating and lying about their age were valuable; questions on theft repetitive
Cultural Acceptability	4.5	
Length	3.8	Uncertain about length or too long
Alabama Parenting Questionnaire		
Overall	4.5	Question 33 and Question 35 were very similar and were placed close together, which could seem repetitive
Cultural Acceptability	4.7	
Length	4.7	Too long
Peer Drug Involvement		
Overall	4.7	
Cultural Acceptability	4.6	
Length	4.7	
SOCRATES V8		
Overall	4.6	
Cultural Acceptability	4.8	
Length	4.7	
Show cards		Ensure the uniformity of spacing between response options

Discussion

This study developed a comprehensive assessment instrument to measure adolescent substance use and delinquent-type behaviours, parenting practices of their parents or guardians, peer substance use as well as motivation to change their behaviour or readiness for treatment. This consisted of a number of existing measures as no one assessment instrument measured both of these problem behaviours comprehensively. Various methods were then used to ascertain the appropriateness of the use of assessment measures among an adolescent population from disadvantaged communities in a developing country, or if changes needed to be made. This was done in three steps: 1) an expert panel meeting; 2) interviewing with adolescents to pre-test measures; and 3) Delphi panel. Step 1 and 2 provided feedback on how the measures could be adapted, while Step 3 was conducted to get consensus on whether these adapted measures were suitable for use, and if additional adaptations were necessary. The end result was a comprehensive assessment which took up to 60 minutes to complete.

The comprehensive assessment was found to have face validity. With the exception of a few areas, the Delphi panel generally reached consensus that the adapted instrument measured what it was supposed to, and also approved the visual content. Structural modifications that were made to the assessment measures were mainly cosmetic, and included adding further instructions for questions, checking skip patterns and adding additional response options. Show cards were included as an additional tool to assist adolescents with following which response categories they could choose from. Changes were also made to make the assessment battery culturally relevant to the Cape Town context such as adding colloquial and Afrikaans words. While most of the above-mentioned changes were fairly minor, there were a few key areas in the instrument that were modified. Since there were concerns about the length of the overall battery, sections of the ADI and SRDS were deleted, and the APQ was replaced by the APQ-9 to decrease the length by 10 pages.

The APQ-9 (Elgar, Waschbusch, Dadds, & Sigvaldason, 2006) consists of nine items that covered the three original factors proposed by the original APQ, namely positive parenting, inconsistent discipline and poor supervision (while Parental Involvement and Corporal Punishment were excluded). The three highest loading items from each supported factor were selected (Appendix J). This meant that items that were seen to be repetitive from feedback in the current study were deleted (such as item 33 and 35 which asked about "smacking" and "spanking"), as well as questions that asked about positive reinforcement, such as parents providing rewards for good behaviour, and kissing and hugging children for doing something well. Correlations between the revised APQ-9 scales and the corresponding APQ domains were: 0.89 (Positive Parenting), 0.90 (Inconsistent Discipline) and 0.76 (Poor Supervision) with moderate internal consistency ((α = 0.57-0.62) (Elgar et al, 2007). Taking the acceptable psychometric properties into account, and the fact that it addressed the key concerns of the expert panel, adolescents and Delphi panel, it was decided that the APQ-9 would be a preferable version of the instrument to use in this context.

For the ADI, since the entire section on mental health was deleted, this should not affect the psychometric properties of the other sections of the instrument, as these were left intact. However, for the SRDS, a number of questions were deleted, as opposed to complete subsections. Therefore it is unknown what impact this can have on the psychometric properties of the instrument.

All of instruments that made up the assessment battery in the current study have been found to be acceptable in a number of other settings. Although developed in the USA, studies have been conducted utilising all of the measures in other countries, including developing countries, providing further support for their use in contexts such as the one in the current study. Parts of the ADI have been used to assess adolescent alcohol abuse and dependence, as well as the frequency of other drugs of use among school-going adolescents in Mexico

(Latimer et al., 2004) and Puerto Rico (Latimer, Rojas, & Mancha, 2009). In addition, the Mexican study (Latimer et al., 2004) also made use of the PCES to assess peer influence on adolescents' substance use. Although the APQ has not been tested extensively in developing countries, it has been translated into Spanish, and tested with Latino families (Donovick & Domenech Rodríguez, 2008).

Components of the self-report delinquency scale have also been adapted for large-scale use in two international studies that compared delinquency in 30 countries. These included both developed countries such as the USA (He & Marshall, 2009) as well as developing countries such as Lithuania (Enzmann et al., 2010). They were also shown to measure the behaviours that they were designed to in these adapted contexts. This shows that one of the major scales of the assessment measure in the current study have been adapted in other contexts.

Finally, SOCRATES-V8 has been used with adolescents in Brazil to measure their motivation to stop drug use (Williams, 2006), but not many studies have been conducted in other developing countries. The instrument has been used previously in Cape Town, South Africa, but only as a measure of adult substance users' motivation to change (Duffett, 2009; Myers et al., 2010). The original measures contained in the adapted assessment tool that is the product of the current study has therefore at least been utilised in a number of different contexts. However, it will still be important for future work to pilot-test the psychometric properties in terms of reliability and validity of these measures with adolescents in this specific context, especially as certain items have been deleted and changes have been made to the wording. In the interim, this instrument can be used with adolescents to assess their problem behaviours and help individualise their plan for needed services. The final comprehensive instrument is available in Appendix H. It differs from a composite of the original measures in that it has been contexualised for Cape Town, the order of certain

questions have been changed, and the original instruments have been shortened where relevant. In addition, show cards were developed to aid participants with selecting their response from the available categories.

Limitations of the Current Study

There were some limitations in the current study. First, it was beyond the scope of this study to translate the assessment instrument into any other indigenous language, due to time and human resource constraints. However, it was clear from the pre-testing that having such a translated Afrikaans version would be useful as this language is commonly spoken in these communities. It would ensure uniform translation by interviewers, and place less pressure on interviewers as there would be no need to translate questions during the actual interview with adolescents. The instrument will therefore be translated into Afrikaans by using the forward translation-back translation process (Beaton, Bombardier, Guillemin, & Ferraz, 2000). The procedure entails the translation of the instrument into the target language, synthesising of results, and then back-translation into English to ensure that the items still have the same meaning.

Another potential limitation was that only one round of the Delphi process was conducted, and this only included a small number of experts. This was not seen as a major issue in the current study, because additional methods were used to modify the assessment measures (expert panel and pre-test interviews). While consensus among Delphi members is seen as key, and previous Delphi studies that have worked with substance use issues have reported up to four questionnaire rounds (Pulford et al, 2009), Hasson et al. (2000) admits that consensus is rarely defined as 100% participant agreement. In the current study, consensus among panel members was indicated by the mean average ratings, and it was not thought necessary to include another questionnaire round.

Conclusion

This chapter has described the development of a comprehensive assessment that can be used to assess primary (substance use) and secondary (delinquent-type behaviour) outcomes, related risk factors and motivation to change. The development of this assessment involved the selection of instruments that measures substance use, delinquency and other factors that may contribute to their continued engagement in these behaviours. The selected measures were found to be reliable and valid during their initial development. In order to examine their relevance for this context, an expert panel was used to modify the instrument, it was tested with eligible adolescents, and finally a Delphi panel was used to see if consensus was reached on the modifications that were made. The result of this study is that a comprehensive assessment is available for adolescents in disadvantaged communities in Cape Town that are identified as potentially having substance use problems. This instrumentation could be of use to service providers who work with adolescents, to identify adolescents who may be in need of, or who may benefit from some kind of intervention to reduce their problem behaviour. However, it is important that services are provided or recommended to these adolescents that have some evidence of being efficacious.

Chapter 5 (Study IV)

Evidence for the Effectiveness of Brief Interventions among Substance-Using Adolescents

Those who screen positive for substance use and delinquent-type behaviours and are then assessed further may benefit from a brief intervention to address these problem behaviours. BIs are time-limited services that motivate those who use substances, to change their substance use and other risk behaviour. The goal of BIs is to educate those who use substances and motivate them to reduce these behaviours (Substance Abuse and Mental Health Services Administration, 2011) through the provision of brief advice or counselling (Levy & Knight, 2008). This chapter presents a study aimed at identifying an evidence-based BI to reduce substance use and delinquent-type behaviour among adolescents.

Previous research has shown a relationship between the early onset of substance use and other problem behaviours, such as delinquent-type behaviours (Chapter 1). Intervening early on with adolescents who use substances and exhibit delinquent-type behaviours may reduce the possibility of negative (often long-term) consequences that are often associated with these behaviours. Research has shown that early initiation of substance use (for example, during adolescence) is associated with an elevated risk for the later development of substance use disorders (Winters & Lee, 2008), especially alcohol abuse and dependence (Merline et al., 2008), and serious substance use in adolescence has even been linked to cognitive impairment in adulthood (Hanson, Medina, Padula, Tapert, & Brown, 2011). In terms of adolescent delinquency, literature has often found it to be associated with negative consequences in adult life, such as engagement in criminal activity (Bernburg & Krohn, 2003; D'Amico et al., 2008). Chapter 2 indicated that this trajectory may also exist among adolescents in Cape Town, with delinquency in early adolescence predicting delinquency during late adolescence. In addition, other research conducted in developed countries found

that delinquency can be linked to emotional (D'Amico et al., 2008) and socio-economic problems (Bernburg & Krohn, 2003) later in life. Therefore, the provision of early intervention services for substance-using adolescents who also engage in delinquent-type behaviours might assist in preventing the progression of substance use, and if delinquency is also addressed, in reducing delinquent-type behaviours.

There is a wealth of international research that has found a consistent positive relationship between substance use and delinquent-type behaviours (see Chapter 1). This was partly confirmed with the findings of Chapter 2 which indicated that substance use was positively associated with delinquent-type behaviours at different time periods. Other studies, similarly to Chapter 2, found substance use to be correlated with delinquent-type behaviour, but not necessary a predictor of delinquent behaviour. These studies have suggested that these problem behaviours can be addressed in an integrated manner by interventions that address the relationship between substance use and delinquent-type behaviours, and focusing on the common risk factors that contribute to both of the behaviours (Becker et al., 2012; Landsheer & Van Dijkum, 2005). However, for the most part, these risk behaviours have been addressed as two separate issues in practice.

What are Brief Interventions?

Brief interventions have become increasingly popular to deal with problem behaviours. While they are often seen as similar to brief therapy techniques such as cognitive behavioural therapy (Tevyaw & Monti, 2004; Winters et al., 2007), they differ in their outcome goals. The aim of BIs are usually to motivate clients to think about or change their behaviour, while brief therapy is usually provided for individuals who want or are in the process of receiving treatment for substance use issues (Center for Substance Abuse Treatment, 1999). It is therefore important to know when BI is appropriate for substance-using adolescents, and when they would be better suited for brief therapy.

There is accumulating empirical evidence to support BIs as an early intervention option for adolescents who are suspected of using substances (Erickson et al., 2005; Grenard et al., 2007; Tait & Hulse, 2003; Wachtel & Staniford, 2010).

BIs that focus on improving the client's readiness to change their behaviours have proven to be an important aspect to their success (Tevyaw & Monti, 2004; Winters et al., 2007). Originally, the theoretical basis for this was the Transtheoretical Model of Behaviour Change. According to this model, the adolescents' awareness of the need for behaviour change occurs along a series of stages (Winters et al., 2007) including pre-contemplation, contemplation, preparation, action, and maintenance. Pre-contemplation is the stage where individuals are not yet thinking of changing behaviour, while in contemplation they seriously begin to think about change. Preparation will be the time when they begin to make changes in preparation for the behaviour change, and action is when clear attempts are made to change. Maintenance involves continued efforts to sustain the change (Norcross, Krebs, & Prochaska, 2011; Prochaska et al., 1994). This model has shown to be useful for understanding behaviour change for several target behaviours, including the behaviours of interest in the current study, namely substance use and adolescent delinquent behaviour (Prochaska et al., 1994). However, this is not to say that the provision of BI to those that are not motivated to change their behaviours will not be successful. A number of BIs therefore have a strong motivational enhancement component that focuses on building readiness for change, by focusing on skills and strategies (Kaminer & Winters, 2011). This is appealing to adolescents as they are given the responsibility to change. BIs are client-centred interventions, and are neither confrontational nor instructive (Kaminer & Winters, 2011; Winters et al., 2007).

Successful BIs should contain the following common elements. Collectively, these elements are known as FRAMES, an acronym that stands for the following elements. The first element is the provision of feedback on adolescents' substance use and its associated

consequences, which directly follows an assessment of the clients' behaviours. The second is that responsibility for change is up to the individual, as related to their motivation to change. This enables substance users to feel that they have control over their substance use behaviour and associated consequences. The third element, which is often seen as the central element, is the provision of clear advice for change and making adolescents aware of the risks associated with their substance use. The fourth element is the provision of a menu of options for change. This ensures that the adolescent has a number of strategies to assist them with reducing or stopping their substance use. The provision of alternatives can reinforce feeling in control of substance use behaviours and possibly increasing their motivation to change these. The fifth element is that the interventionist should be empathic, and show warmth and understanding towards the adolescent receiving the service. The final element is to promote adolescents self-efficacy for change, and encourage the adolescent's confidence that they are able to change their substance use and associated behaviours, often through eliciting self-efficacy statements (Henry-Edwards, Humeniuk, Ali, Monteiro, & Poznyak, 2003; Young et al., 2012).

While these elements are common to brief interventions, the major defining characteristic of BIs has to do with the fact that they are time-limited services. Their short length is especially useful for individuals who have moderate or risky patterns of alcohol and drug use (Babor et al., 2011). Generally BIs consist of one to five contact sessions (Levy et al., 2007; Tevyaw & Monti, 2004; Winters et al., 2007). Furthermore these sessions can last from just a few minutes to approximately an hour (Levy et al., 2007; Winters et al., 2007). Their length and level of intensity is one potential reason why BIs are especially valuable for adolescents, as explained below.

Value of brief interventions for adolescents. There are several reasons why BIs are potentially relevant and effective for use among adolescents. First, the majority of adolescents who use substances do not meet the criteria for a substance use disorder, as they

may have problem substance use (Winters et al., 2007) but are not yet dependent on substances (Levy & Knight, 2008; Tubman, Gil, & Wagner, 2004), and therefore they do not require intensive forms of treatment suitable for adolescents. Therefore BIs are likely to be appropriate for these adolescents as it is a less intensive type of treatment (Winters et al., 2007). In addition, BIs may be especially well-suited for substance-using adolescents whose delinquent-type behaviour is less established, as research suggests that adolescents not yet involved in the criminal justice system, are less set in a deviant lifestyle, and interventions conducted with this population may have a more positive outcome (Brunelle, Cousineau, & Brochu, 2005). The fact that BIs are not intensive also means that they can be conducted without disrupting other aspects of the adolescent's life (Winters et al., 2007). Other traditional kinds of treatment may interfere with school and after-school activities, as well as family life, as they require a large amount of the adolescent's time. For example: traditional substance use treatment may prove difficult in terms of scheduling (Winters et al., 2007) around the adolescents' other daily activities.

Second, the approach can be extended to problems other than substance use. There is evidence for the use of BI in addressing additional health problems among adolescents, such as sexual risk behaviour (Bryan, Schmiege, & Broaddus, 2009; Schmiege, Broaddus, Levin, & Bryan, 2009) and mental health problems (Laukkanen, Hintikka, Kylmä, Kekkonen, & Marttunen, 2010; Lusk & Melnyk, 2013) including depression (Hoek et al., 2011; Stice, Rohde, Seeley, & Gau, 2009). Furthermore, BIs might be particularly useful for reaching underserved populations, such as those with dual problems (Dembo, Gulledge, Robinson, & Winters, 2011; Tubman et al., 2004). Adolescents in South Africa are underserved, despite high levels of substance use (Harker, Myers, & Parry, 2008; Myers, Louw, & Fakier, 2008). BIs are therefore a viable option because they are cost-effective, and studies in both developed (Winters et al., 2007) and developing countries such as South Africa (Flisher et al.,

2013) show that unmet service exist needs due to the burden on adolescent healthcare. Using BI for people with low to moderate problems is less costly than traditional treatment, and can provide the appropriate level of treatment to adolescents who are not yet dependent on substances, and have therefore gathered interest from service providers (Tevyaw & Monti, 2004).

International research has shown that BIs are also applicable in a number of settings, such as paediatric clinics (Levy & Knight, 2008), juvenile detention systems (Winters et al., 2007) and school assistance programs (Winters, Leitten, Wagner & O'Leary Tevyaw, 2007) in developed-country settings. It is uncertain if BIs are equally transferable to a number of settings in developing countries, as there is not much evidence of the use of BIs for adolescents in these countries, with the exception of a very small study conducted in school settings in Mexico (Martínez, Garza, Cabrera, Torres, & Héctor, 2008). Chapter 6 will address this gap in the knowledge.

A further valuable characteristic of BIs is their relative cost-effectiveness (Babor et al., 2011; McCollister, French, Freitas, Dennis, Scott, Funk, 2013). It is assumed that this is partly due to their brevity and the fact that they can be implemented by a wide-range of service providers such professionals (Lipsey et al., 2010), as well as other service providers with various levels of training and experience, such as school counsellors and non-professionals. Training non-professionals to have skills to be able to provide BIs is seen to be relative easy and inexpensive through workshops and supervision and feedback (Walters, Matson, Baer, & Ziedonis, 2005). Furthermore, as mentioned earlier, the intervention costs are considerably lower than the costs of more intensive treatment and other results from continued use in adolescents. While cost-effective studies of BIs among adolescents are relatively new, there is a small body of evidence that shows that delivering an intervention can indeed reduce negative consequences associated with substance use. For example,

motivational interviewing has been found to be a good investment for alcohol-using adolescents in emergency room settings (Neighbors, Barnett, Rohsenow, Colby, & Monti, 2010).

With changes in the global economic climate there has been increasing pressure on service planners and policy makers to show that the interventions they are proposing are not only inexpensive but also effective. The following section summarises the evidence in support of the effectiveness of BIs among adolescents.

Effectiveness of brief interventions. A few systematic reviews have addressed the effectiveness of BIs in the past ten years on adolescent substance use. These recent systematic reviews provide high-quality evidence of the effectiveness of brief interventions for adolescents (Tait & Hulse, 2003; Tanner-Smith &Lipsey, 2014; Yuma-Guerrero et al., 2012) and motivational interviewing specifically (Jensen et al., 2011) in reducing adolescent substance use. A large number of the outcomes measured in these reviews measured alcohol use (Tait & Hulse, 2003; Tanner-Smith &Lipsey, 2014), with only one review examining multiple substance use (Jensen et al., 2011). Babor et al. (2007) agree that the majority of literature on BIs covers alcohol use only, while there have been considerably fewer studies of BIs for drug use. In addition, the existing literature indicates that BIs may be more effective in reducing drug use than alcohol use. Effect sizes for BIs for alcohol outcomes have been small (Tait & Hulse, 2003; Yuma-Guerrero et al., 2012), while larger effects sizes were found for other drugs (Tait & Hulse, 2003). However, in their meta-analysis, Tanner-Smith and Lipsey (2014) found moderately large effective sizes for alcohol-related outcomes for adolescents that received BIs.

Positive findings of these reviews were that BIs showed significant effects when delivered irrespective of the service providers' level of education. While these reviews are a good starting part for the evidence of the effectiveness of BIs among adolescents, they only

measured substance use outcomes and failed to examine the effect of these interventions on other problem behaviours associated with substance use such as fighting or truancy. In addition, there were a number of studies included in the Tait and Hulse (2003) review that took place in university settings, and therefore the interventions would have targeted older adolescents and early adults, which is not the target population for the current study.

It is critical for research to address which characteristics of interventions are most effective for high-risk adolescents so that investments can be made in safe and appropriate services. First, the duration of BIs can be of importance. The above-mentioned systematic reviews indicated that BIs of different durations had small but significant effect sizes, while receiving a single BI session is cost-effective and can positively influence changes in behaviour (Jensen et al., 2011). Winters et al. (2007) reiterates that BIs for adolescent learners should be of sufficient duration and intensity in order to provide meaningful behaviour change. More research needs to be conducted in this area, in order to ascertain if providing multiple sessions lead to more behaviour change.

Second, the delivery format of the intervention warrants more attention, more specifically whether the intervention is delivered in an individual or group setting (Winters et al., 2007). This was not a main point of discussion in the two systematic reviews (Jensen et al. 2011; Tait & Hulse, 2003), although Tait and Hulse (2003) did mention that one of the included studies had a group intervention component. This becomes especially important when assessing delinquent-type behaviours in addition to substance use, as delinquent peers can have a strong impact on adolescents. Intervening with delinquent adolescents often involves placing them in a group setting, together with other delinquent-type peers. This makes sense as it is cost efficient, especially in resource-strapped settings. However, it is possible that using a group format intervention to address problem behaviours among adolescents might worsen this behaviour because of negative peer influence (Gifford-Smith,

Dodge, Dishion, & McCord, 2005). For example, group interventions delivered to adolescents has been found to increase problem behaviours and contribute to negative life outcomes during adulthood (Dishion, McCord, & Poulin, 1999). Findings from systematic reviews of interventions are useful in this regard as they can guide choices about which modes of intervention delivery are the most effective, and therefore the best to invest in.

BIs for adolescents can also be used in a number of ways. First, they can be provided as stand-alone treatment (or the only treatment received) if adolescents have a moderate level of substance use (Dennis et al., 2004; Tait & Hulse, 2003). In fact, a study conducted by Dennis et al. (2004) with cannabis-using youth in the USA found that a brief intervention consisting of motivational enhancement therapy was as useful as longer treatment (along with brief cognitive behavioural therapy). BIs, while generally recommended for problem substance use, can also be utilised for adolescents who have substance use issues that are more serious, as they can be the first point of entry to engage youth to participate in more intensive treatment (Levy & Knight, 2008). They can also form part of a more extended treatment for persons that are seeking assistance but are placed on waiting lists.

Aim of the Study

The primary aim of the study was to conduct a systematic review to try and identify an effective BI (see Study IV in Chapter 1), that could form part of a SBIRT model for intervening with at-risk adolescents from Cape Town. In addition, it aimed to address the effectiveness of BI for substance-using adolescents at risk for delinquent-type behaviours, as there have only been a few studies of brief interventions on substances other than alcohol (Babor et al., 2007), through conducting a systematic review of BIs. More specifically, the objective of this review was to summarize the evidence, and assess the effectiveness of brief interventions for substance-using adolescents at risk for delinquent-type behaviour, given that extant reviews of BIs for adolescents have not addressed their adequacy for other behaviours.

Method

Inclusion and Exclusion Criteria

To be included in the review, studies had to meet several criteria. First, studies had to compare BI, either as stand-alone intervention or specifically as part of a SBIRT model, to treatment as usual. Second, studies were only included in the review if participants were assigned to an experimental and control group, and if studies were randomised controlled trials or quasi-experimental studies. Studies that did not have any comparison group of subjects and qualitative studies were excluded from the review (see Figure 7). Third, the studies were also required to have pre-test and post-test or follow-up measures. Fourth, for a study to be included in the review, the intervention had to have some measure of behavioural outcomes in addition to substance use. Specifically, the intervention had to have changes in alcohol or other drug use and problem behaviours (related to delinquent behaviour) as its primary and secondary outcomes respectively. The use of alcohol and other illegal and legal substances with the potential to be abused (including heroin, cocaine, cannabis, methamphetamine, methaqualone, over-the-counter and prescription medicines) were included as primary outcomes. Secondary outcomes included delinquent-type behaviours that could be legal (such as truancy from school, aggression and fighting) as well as behaviour that could have legal consequences (such as shoplifting or theft, assault, damage to property) and specific substance-use related delinquent-type behaviours (such as drinking and driving, or being involved in drug sales). Studies that only had attitudinal change as a main outcome were excluded from the review.

Studies that focused on tobacco use *only* were excluded from this study, as previous systematic reviews have provided very limited evidence for the effectiveness of interventions that focus only on changing tobacco use among adolescents (Garrison, Dimitri, Beth, Wiehe, & Frederick, 2003). Other inclusion criteria were age-related, with participants having to be

between 12 and 19 years of age, as the focus of this review was on interventions for adolescents.

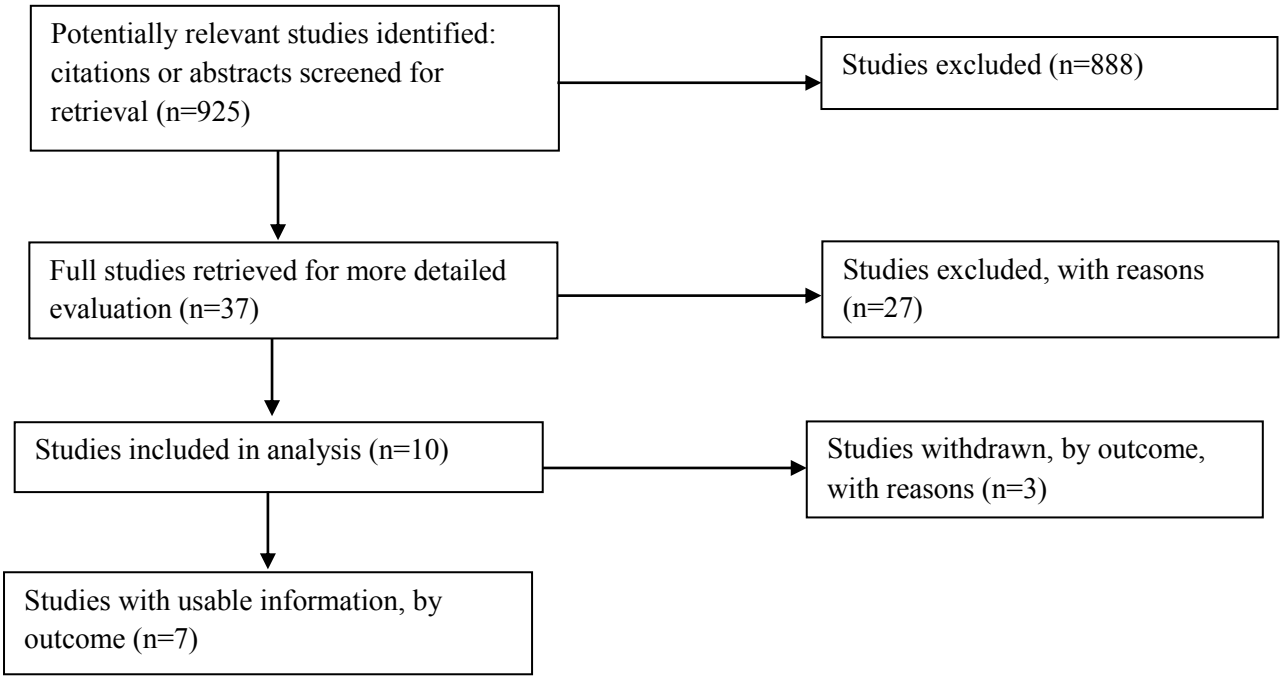

Figure 7. The selection process for studies included in the systematic review.

Search strategy to identify studies

Searches were developed and then run on the following electronic databases: Embase, ERIC, Cochrane Database of Systematic Reviews, ISI Web of Knowledge Social Science Citations, LILACS (Latin American and Caribbean Health Sciences), ETOH, PsychINFO, PubMED and ISAP. Another data base that was searched was the US Substance Abuse Mental Health Services Administration's (SAMHSA) repository for evidence based programmes on substance use, with crime/delinquency and violence as secondary outcomes. The basic search terms used were: (adolescent/adolescence or teenager), and (brief or minimal intervention or counselling) and (drugs: cannabis, cocaine, heroin, amphetamine, prescription, methaqualone and alcohol) and (drinking behaviour or binge drinking) and (substance use or abuse or misuse). In addition, a manual search was conducted through the

reference lists of the selected studies to see if any of the references referred to studies which potentially met the inclusion criteria. The search was not limited to English language publications.

Nine-hundred and twenty-five abstracts were found through conducting this search. Two independent reviewers examined these abstracts for potential relevance (based on above-mentioned inclusion criteria). They met to discuss any differences in their selections, but it was unnecessary to bring in a third author to resolve any of these differences. Thirty-seven full-text articles (including two Spanish articles which were translated) were then obtained and the same two authors read these and completed a table to decide whether the studies met all inclusion criteria. Based on the inclusion criteria, ten articles were chosen for analysis. As one of these articles did not contain clear outcomes, and another focused on early intervention but not BI, these articles were excluded from further analyses (see Figure 7 for selection process). Another study also did not provide the information necessary to calculate effect sizes, and after a number of attempts to contact the authors, this study was also excluded from the meta-analysis.

Three studies were excluded from the meta-analysis because none of the non-significant results were provided in the results section, or available from authors following a number of efforts to contact them. This left seven studies that contained enough information and had comparable outcomes to allow them to be included in a meta-analysis. A meta-analysis was conducted in this study by combining the results of the individual studies, and if the studies were similar enough, comparing the intervention effects and increasing the power of analysis in order to measure the effects of the interventions (Lipsey & Wilson, 2001).

In this meta-analysis effect sizes (Hedge's *g*) and standard errors of experimental and control groups were compared. This effect size was chosen because it corrects for biases due to small sample sizes, which was the case for some of the included studies (Hedges & Olkin,

1985). Hedge's *g* can be interpreted in a similar manner to Cohen's suggested interpretation of effect sizes, whereby 0.20 is considered small, 0.50 is considered medium, and 0.80 is considered large. An effect size calculator allowed the author to calculate effect sizes for various different reported statistics in an attempt to measure overall effect sizes (Devilly, 2005). Generally, an interpretation of a significant effect size means that it was significantly different to a mean difference of zero, as a score of zero would indicate no difference in substance use as a result of the intervention.

Calculated effect sizes that were positive reflected a reduction in risk behaviour (namely, substance use or delinquent-type behaviours) in the direction of the experimental group. This indicated that the intervention significantly decreased high-risk behaviours. Effect sizes were calculated between the control group and experimental group or the experimental group that differed most from the control group (in the event where more than one intervention was included in the study). Only post-intervention outcomes were analysed. When studies had more than one follow-up appointment after the intervention, an average of the scores across follow-up times was obtained by calculating the arithmetic mean, similar to a previous systematic review on alcohol and drug use (Tait & Hulse, 2003). All of the studies reported on a number of outcomes and average effect sizes which were calculated using specialised software (Review Manager) that generated weighted effect sizes (Review Manager (RevMan), 2011).

The conservative random effects model of aggregating effect sizes was selected for this meta-analysis, due to the relatively small number of studies (Lipsey & Wilson, 2001) included in the systematic review. Furthermore, a meta-analysis cannot be conducted without taking into account levels of heterogeneity, which is the percentage of variability in the effect size that makes it difficult to compare results across studies. The decision was made to conduct sub-group analyses for the delivery of intervention (group versus individual), and the

length of the intervention (single versus more than one session, including booster sessions) in case of high levels of heterogeneity across the studies, and also because the study aimed to address which format of delivery of the BIs was identified as most effective on reducing risk behaviours.

Results

Description of Included Studies

Seven studies were identified with a total of 1641 adolescents (see Table 17 for characteristics) who participated in the studies and 1452 (88.5%) who participated until completion (namely, they received the full intervention and attended all planned follow-up appointments). Over half of the study participants were male (57.3%). The studies were conducted in different types of settings: one was conducted in a public urban high school (Winters, Fahnhorst, Botzet, Lee, & Lalone, 2012), and one was conducted in juvenile facilities (Stein et al., 2006). Other settings included emergency room departments (Spirito et al., 2004; Walton et al., 2010), community health centres (Bailey, Baker, Webster, & Lewin, 2004; D'Amico, Miles, Stern, & Meredith, 2008) and youth centres (Peterson, Baer, Wells, Ginzler, & Garrett, 2006).

Delivery and duration of the included interventions also merit discussion. All of the interventions were brief motivational interventions. One of these interventions was administered in a group (Bailey et al., 2004) while all the other studies used interventions delivered in an individual format. Only one of the studies included a second population, namely the substance-using adolescents' parents (Winters et al., 2012). The length of the interventions tested in the included studies ranged from one session of 30 minutes (Peterson et al., 2006) to four sessions of 30 to 40 minutes in duration (Bailey et al., 2004). In addition, two of the studies contained booster sessions (D'Amico et al., 2008; Stein et al., 2006).

Quality of included studies. For the current study, quality of evidence was defined as the confidence in the effect estimates taking into account factors such as risk of bias and heterogeneity of studies (Balshem et al., 2011). Overall, the studies were of a high quality, with the majority of them controlling for attrition or low levels of study dropout. The participants in all seven studies were randomly selected to experimental or control groups. Six of these studies were randomised controlled trials (Bailey et al., 2004; D'Amico et al., 2008; Peterson et al., 2006; Spirito et al., 2004; Walton et al., 2010; Winters et al., 2012) and the remaining study had a quasi-experimental design as it was a simple pilot study (Stein et al., 2006).

Table 17. *Characteristics of Included Studies*

Study ID	Setting and Country	Type of Intervention	Gender Breakdown (%)	Age (Mean, SD)
1. Bailey et al., 2004	Youth Centre, New South Wales, Australia	Brief MI group intervention (4 sessions-first session 40 minutes, remaining sessions 30 minutes)	50% Male, 50% Female	15.44 (1.80)
2. D'Amico et al., 2008	Community-based health clinic, Los Angeles, USA	Project CHAT: MI (1 session of 15 -20 minutes; 5-10 minute booster telephone call	47.6% Male, 52.4% Female	16.0 (1.85)
3. Peterson et al., 2006	Homeless adolescents-drop in centres, street intercepts, Seattle, Washington, USA	Brief ME (1 session of approximately 30 minutes)	54.7% Male, 45.3 Female	17.4 (1.54)
4. Spirito et al. , 2004	Northeast Emergency Department, USA	Brief MI (1 session of 35-45 minutes)	63.8% Male, 36.2% Female	15.6 (1.2)
5. Stein et al., 2006	Northeast juvenile correctional facility, USA	MI (60 minute , 90 minute booster)	89.5% Male, 10.5% Female	17.09 (.1.06)
6. Walton et al., 2010	Emergency Department, Michigan, USA	SafERteens therapist vs computer brief intervention (1 session of 35 minutes)	43.5% Male, 56.5% Female	16.8 (1.3)
7. Winters et al., 2012	Urban Public High School, Minnesota, USA	Teen Intervene-Brief MI (2 sessions with adolescent of 60 minutes, 1 session for Exp 2 of 60 minutes with parent)	51.5% Male, 48.5% Female	16.1

Attrition rates varied across the studies. Only one study (D'Amico et al., 2008) did not discuss participant withdrawal, and it seems that although there was no drop out, it had a small sample size (total N = 34). Another study (Winters et al., 2012) also reported a very low attrition rate (1.3 %) and therefore did not conduct an intention to treat analysis to control for the effects of attrition. Two of the studies used an intention to treat analysis (Peterson et al., 2006; Walters et al., 2005). Others studies found that there were no statistically significant differences between those who withdrew from the study and those that completed the study (Bailey et al., 2004; Spirito et al., 2004). At baseline, one of the studies (D'Amico et al., 2008) found that there were no statistically significant differences between groups, but the results indicated that the trend was for the intervention group to be less likely to complete the six month follow up appointment.

All of the studies included follow-up periods to measure substance use and delinquent behaviour after the administration of interventions, ranging from one to 12 month follow-up periods. The measured outcomes that were reported on included frequency of substance use, quantity of use, and binge or heavy drinking. The behavioural outcomes of substance use included negative consequences of substance use (including legal problems), aggression and violence and driving under the influence of substances (such as cannabis) (see Table 18).

The overall effect size for both substance use and problem behaviour was calculated as $g = 0.25$ (95% CI: 0.15-0.36), and significantly favoured the direction of the intervention (experimental group). The results of the subgroup analysis indicated that there was a difference in delivering the intervention in a group setting ($g = -0.03$, 95% CI: -0.21-0.15) (Bailey et al., 2004) in comparison to an individual setting ($g = 0.29$, 95% CI: 0.12-0.45) showing better outcomes for interventions delivered in an individual format to adolescents (Figure 8). The effect sizes were small for six of the seven interventions (Bailey et al., 2004;

Table 18. *Outcome Measures of Included Studies*

Study ID	Outcome	FU Group sizes /attrition rate	Intervention Results: Mean (SD)*	Control Results: Mean (SD)	Hedge's g and SE for Meta-Analysis
1. Bailey et al., 2004	Frequency of alcohol Quantity alcohol Binge drinking Hazardous drinking Risk-taking behaviours	Experimental: 17, Control: 17	1.49 (0.86), 1.72 (1.37), 1.57 (0.7), 4.79 (2.46), 2.39 (1.39)	1.63 (0.98), 1.67 (1.28), 1.67 (1.03), 4.96 (2.83), 1.71 (1.21)	0.15(0.08), 0.04(0.02), 0.11(0.05), 0.07(0.04), 0.50(0.27)
2. D'Amico, Miles, Stern & Meredith, 2008	Alcohol consequences; Frequency alcohol; Quantity of drinks; Heavy drinking (+3 drinks); Marijuana consequences; Quantity marijuana; Frequency marijuana	Experimental: 22, Control: 20 Attrition: 34 %	n/a	n/a	0.07 (0.14), 0.42 (0.63), 0.11 (0.42), 0.20 (0.35), 0.30 (0.19), 0.77 (0.26), 0.44 (0.56)
3. Peterson et al., 2006	Binge drinking Frequency alcohol use Quantity alcohol Frequency marijuana Frequency days of illicit drug use summed days of illicit drug use RAPI: drug use consequences	212 (69, 77, 65) (20 % attrition) Intention to treat	Not significant Not significant Not significant 12.72 (11.54) 7.89 (10.32) 8.99 (13.05) Not significant	Not significant Not significant Not significant 12.39 (12.7) 7.69 (8.87) 10.63 (15.61) Not significant	0.06 (0.03) 0.07(0.04) 0.15(0.08)
4. Spirito et al., 2004	Frequency alcohol; Quantity alcohol; High volume/binge drinking; Drinking and driving	Experimental: 64, Control: 60 Attrition rate: 19 %	3.07 (4.25), 3.19 (2.56), 1.59 (2.97) Not significant	4.15 (5.66), 3.36 (2.95), 2.58 (4.33) Not significant	0.21(0.11), 0.06(0.03), 0.27(0.14)

5. Stein et al., 2006	Frequency of drinking and driving Frequency of marijuana use and driving Frequency of driving with driver who had been drinking Frequency of driving with driver who had used marijuana	59 Experimental, 45 Control	0.43 (1.3) 6.25 (15.78) 4.68 (11.38) 19.07 (30.59)	2.32 (4.18) 11.09 (21.4) 11.16 (13.85) 23.77 (30.94)	0.64 (0.20) 0.26 (0.13) 0.52 (0.20) 0.15 (0.08)
6. Walton et al., 2010	Alcohol use frequency/ Quantity of alcohol use; Binge drinking; Alcohol consequences; Peer Aggression Violence	Experimental 1(Comp): 209, Experimental 2(Therapist: 209, Control: 208 Attrition rate: 15 % Intention to Treat	3MFU: 0.25 (0.22), 6MFU: 0.19 (0.23) 3MFU: 0.03 (0.22), 6MFU: 0.02 (0.23) 3MFU: 0.41 (0.23), 6MFU: 0.59 (0.25) 3MFU: 0.30 (0.10); 6MFU: 0.17 (0.11) 3MFU: 0.41(0.23); 6MFU: 0.08 (0.09)		0.22(0.23), 0.03(0.23), 0.05(0.24), 0.24(0.11), 0.25(0.16)
7. Winters et al., 2012	Frequency alcohol; Frequency marijuana; # alcohol abuse symptoms; #alcohol dependence symptoms; # cannabis abuse symptoms; #cannabis dependence; symptoms PCS	Experimental 1(adolescent): 134, Experimental 2(parent and adolescent): 121, Control: 55 Attrition rate: 1.3 %	2.8 (4.4), 8.3 (14.3), 0.4 (1.1),0.7 (1.6), 4.3 (3.4), 1.0 (2.1), 12.1 (2.0)	10.5 (11.8), 14.9 (18.1), 1.3 (1.9), 2.6 (3.9), 1.8 (2.6), 2.2 (3.0), 13.5 (3.1)	1.01 (0.08), 0.42 (0.16), 0.64 (0.17), 0.75(0.17), 0.79(0.17), 0.50(0.16), 0.58(0.17)

*Note: for Walton et al. (2010) and Damico, Miles, Stern & Meredith (2008) the results were already provided as effect sizes and standard errors

D'Amico et al., 2008; Peterson et al., 2006; Spirito et al., 2004; Stein et al., 2006; Walton et al., 2010), while only one intervention showed a medium to large effect (Winters et al., 2012). The meta-analysis results did, however, indicate a large degree of heterogeneity between the study outcomes ($X^2 = 43.14$, $p < 0.001$), with I^2 (72%). A further subgroup analysis was therefore conducted and results indicated that both single ($g = 0.11$, 95% CI: 0.03-0.20) and multiple intervention sessions ($g = 0.44$, 95% CI: 0.24-0.64) had a significant effect on the outcomes, but the effect size was larger for multiple-session interventions. Levels of heterogeneity were not significant for either type of intervention. Studies were therefore sufficiently homogeneous and could be compared in a meta-analysis.

Comparison of Primary Outcomes

The first comparison was of the substance use outcomes across six of the included studies. Stein et al (2006) measured only risky behavioural outcomes associated with substance use and was therefore not included in this analysis (see Figure 9). The meta-analysis results showed that when alcohol and drug outcomes were considered together, the overall effect size was significant at g = 0.24 (95% CI: 0.11-0.37). The largest effect size for an individual study on the substance use outcomes was 0.70 (95% CI: 0.43-0.97) (Winters et al., 2012). The heterogeneity statistics also indicated that the heterogeneity between studies was significant ($X^2 = 38.67$, $p < 0.001$, $I^2 = 74$ %). Once a sub-group analysis was conducted, individual interventions had a significant effect (g = 0.27, 95% CI: 0.03-0.51) while the group-delivered intervention did not have a significant effect (g = 0.09, 95% CI: -0.36-0.54). Having more than one session seemed to have a bigger effect (g = 0.58, 95% CI: 0.17-1.00) on substance outcomes than a single intervention session (g = 0.09, 95% CI: 0.02-0.16). The outcomes for specific substances are reported below.

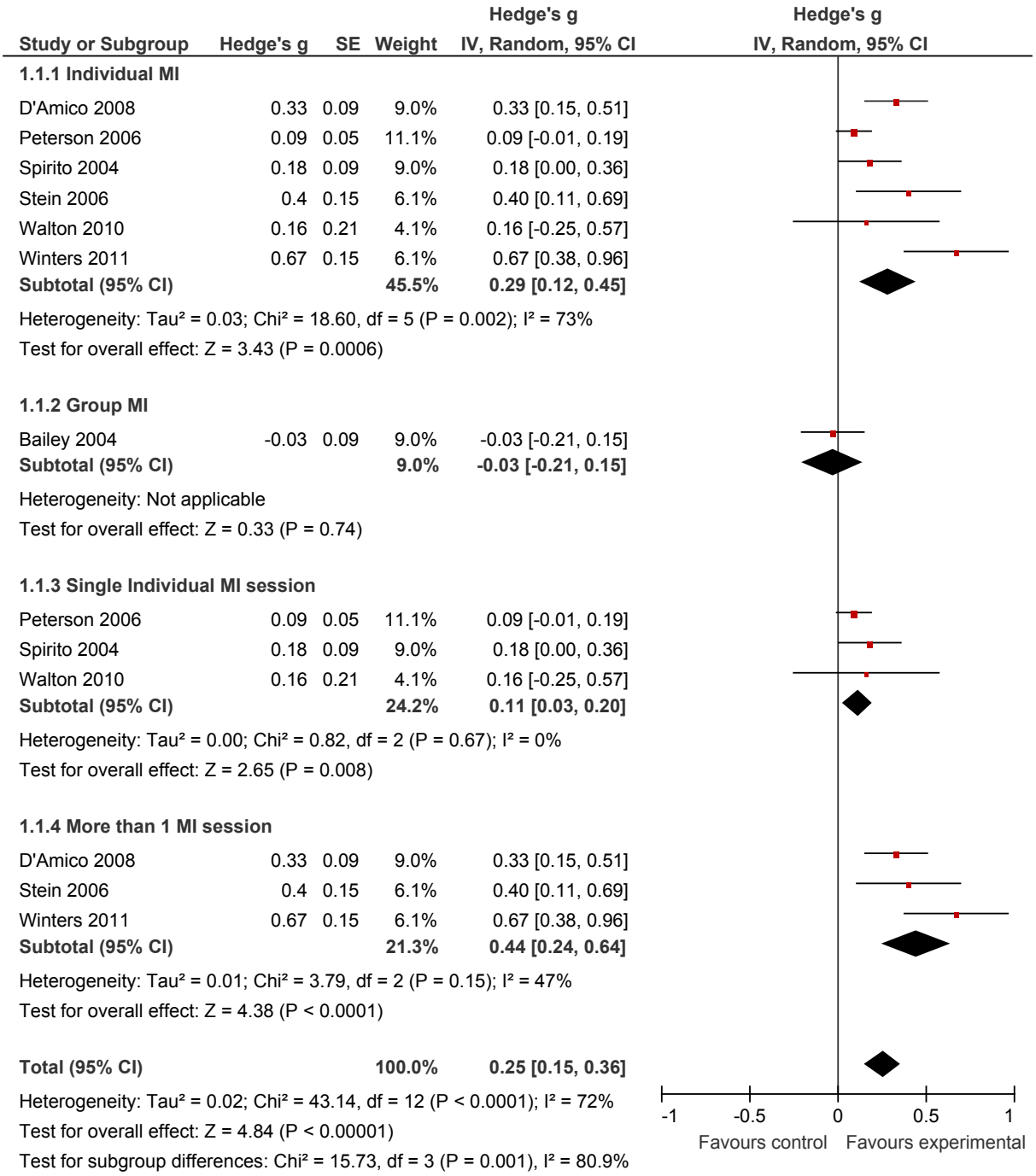

Figure 8. Forest plot of all outcomes.

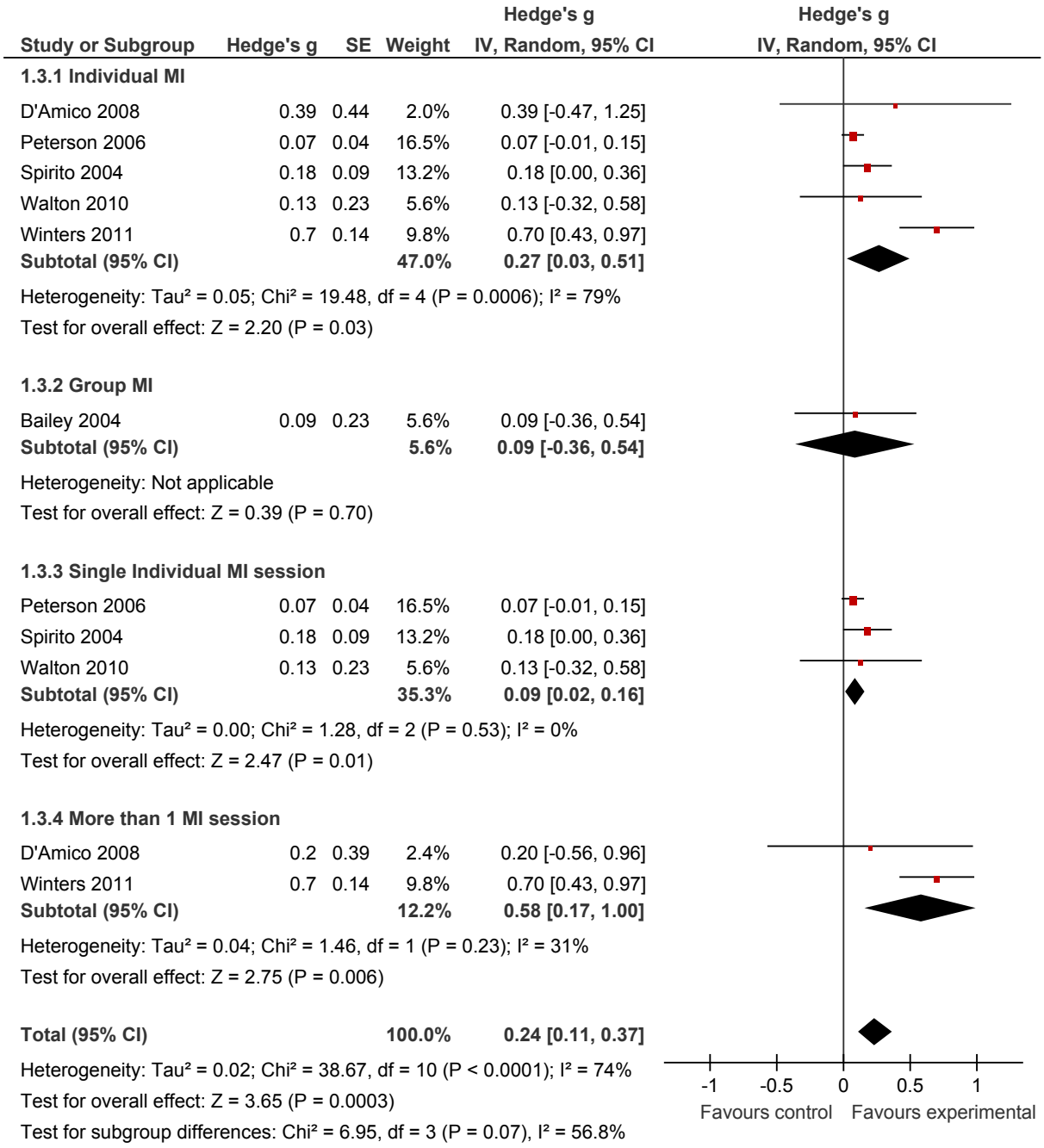

Figure 9. Forest plot of substance use outcomes.

Alcohol frequency. Five studies measured alcohol frequency (Bailey et al., 2004; D'Amico et al., 2008; Spirito et al., 2004; Walton et al., 2010; Winters et al., 2012), which was defined as the number of times alcohol was used in the 30 days prior to the interview. The overall effect size was significant at 0.44 (95% CI: 0.12-0.77). The sub-group analysis results indicated that individual delivery of the intervention ($g = 0.49$, 95% CI: -0.08-1.05), and multiple intervention sessions ($g = 1.00$, 95% CI: 0.85-1.16) had a larger effect on alcohol frequency (see Figure 10).

Alcohol quantity. Four of the studies (Bailey et al., 2004; D'Amico et al., 2008; Spirito et al., 2004; Walton et al., 2010) measured alcohol quantity (how many drinks participants consumed on a typical drinking day 30 days prior to the interview). The effect size was small but significant at 0.05 (95% CI: 0.02-0.08). There was no significant heterogeneity between studies ($X^2 = 1.60$, $p = 0.95$, $I^2 = 0$ %; see Figure 11).

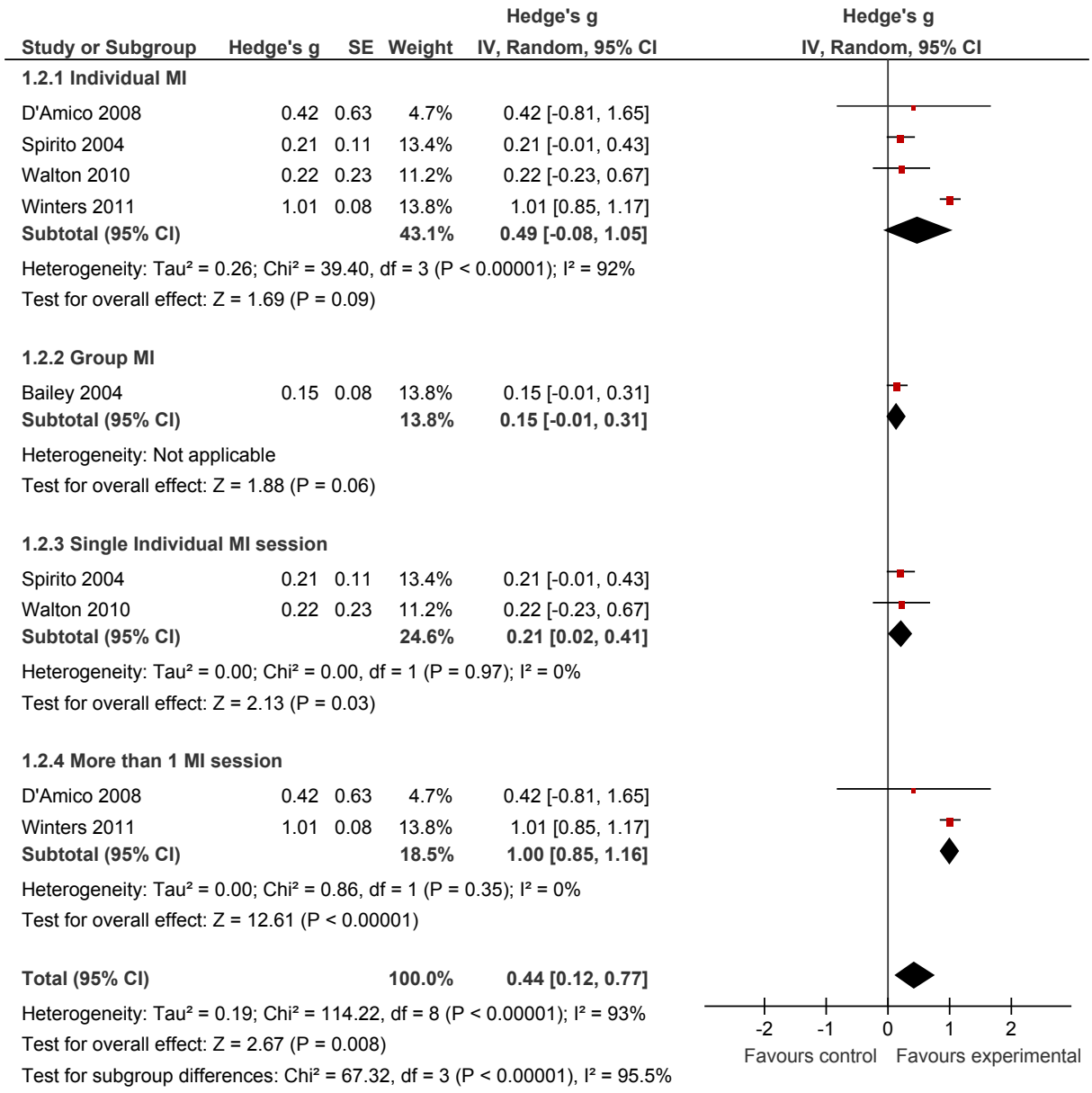

Figure 10. Forest plot of alcohol frequency outcomes.

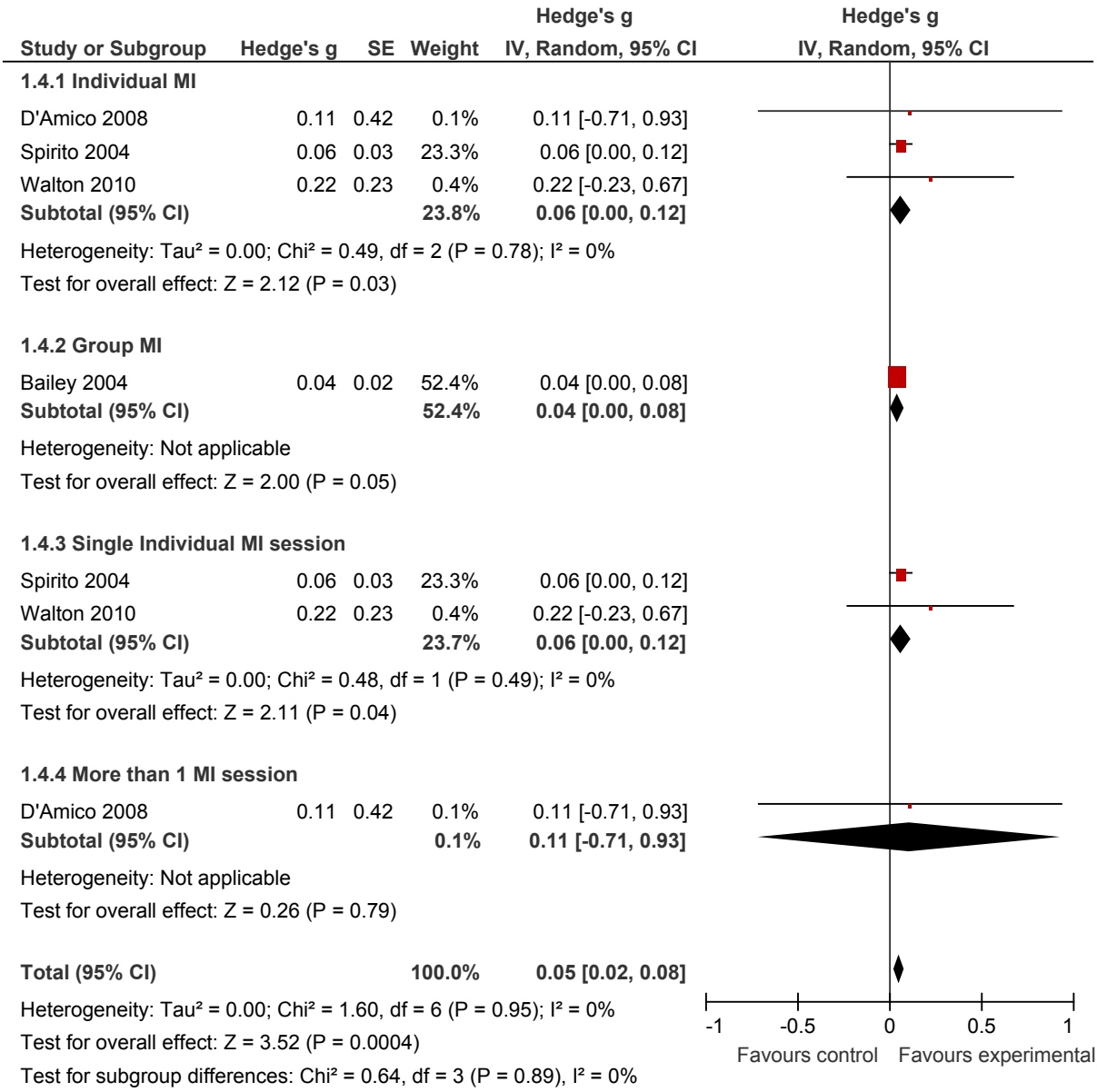

Figure 11. Forest plot of alcohol quantity outcomes.

Binge/heavy drinking. Four studies measured binge or heavy drinking of three or more drinks (Bailey et al., 2004; D'Amico et al., 2008; Stein et al., 2006; Walton et al., 2010) respectively at one time period among adolescent participants. The overall mean difference score was significantly different to zero (g = 0.14, 95% CI: 0.05-0.22). No significant heterogeneity was found between studies ($X^2 = 2.59$, p = 0.86, $I^2 = 0$; see Figure 12).

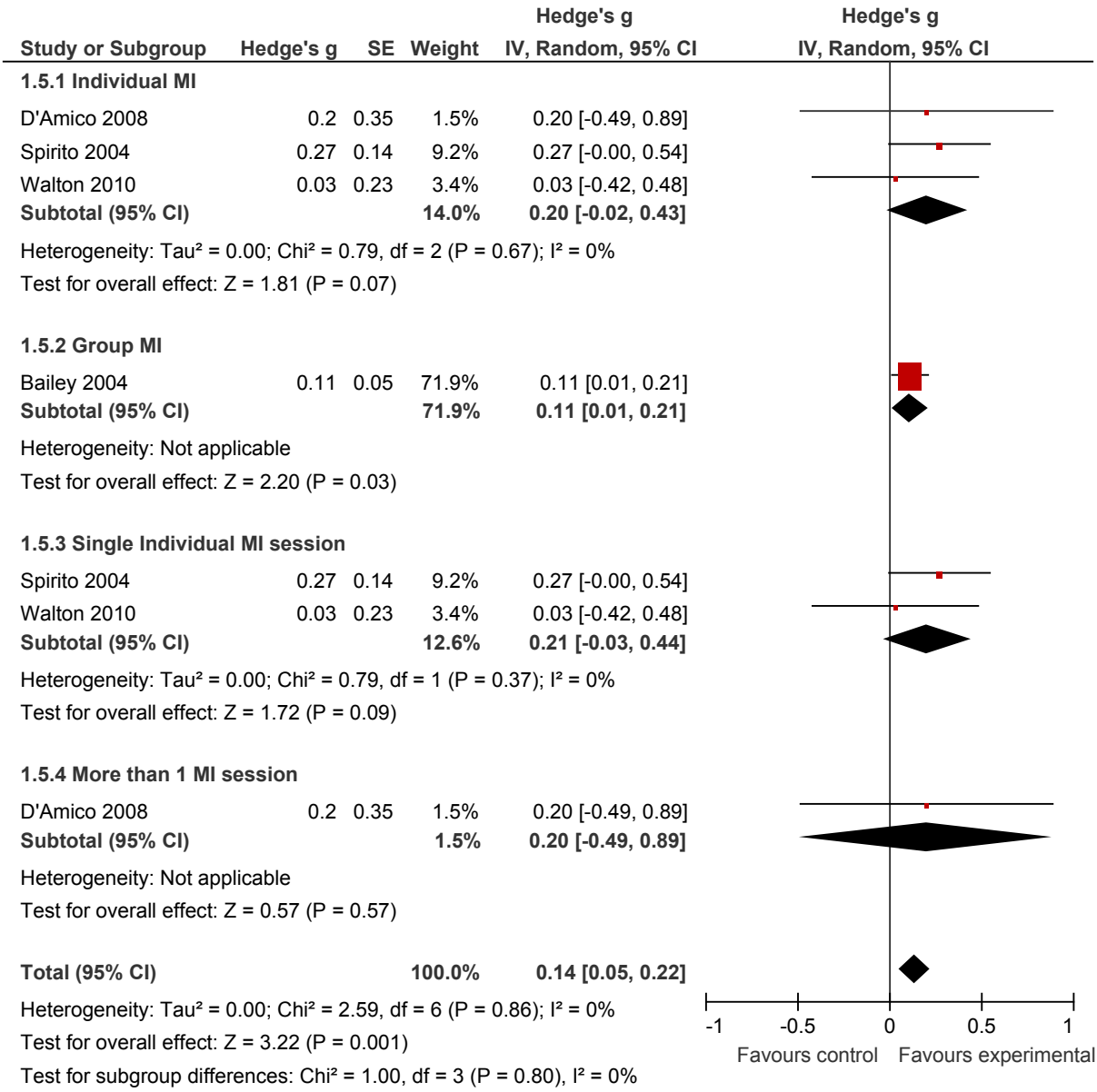

Figure 12. Forest plot of heavy/binge drinking.

Marijuana/Cannabis frequency. Three of the studies contained a measure of marijuana frequency 30 days prior to the interview (D'Amico et al., 2008; Peterson et al., 2006; Winters et al., 2012). The overall effect size was 0.22 and was not significant (95% CI: -0.09-0.52). The heterogeneity statistics also indicated that the heterogeneity between studies was acceptable ($X^2 = 5.32$, $p = 0.07$, $I^2 = 62$ %; see Figure 13).

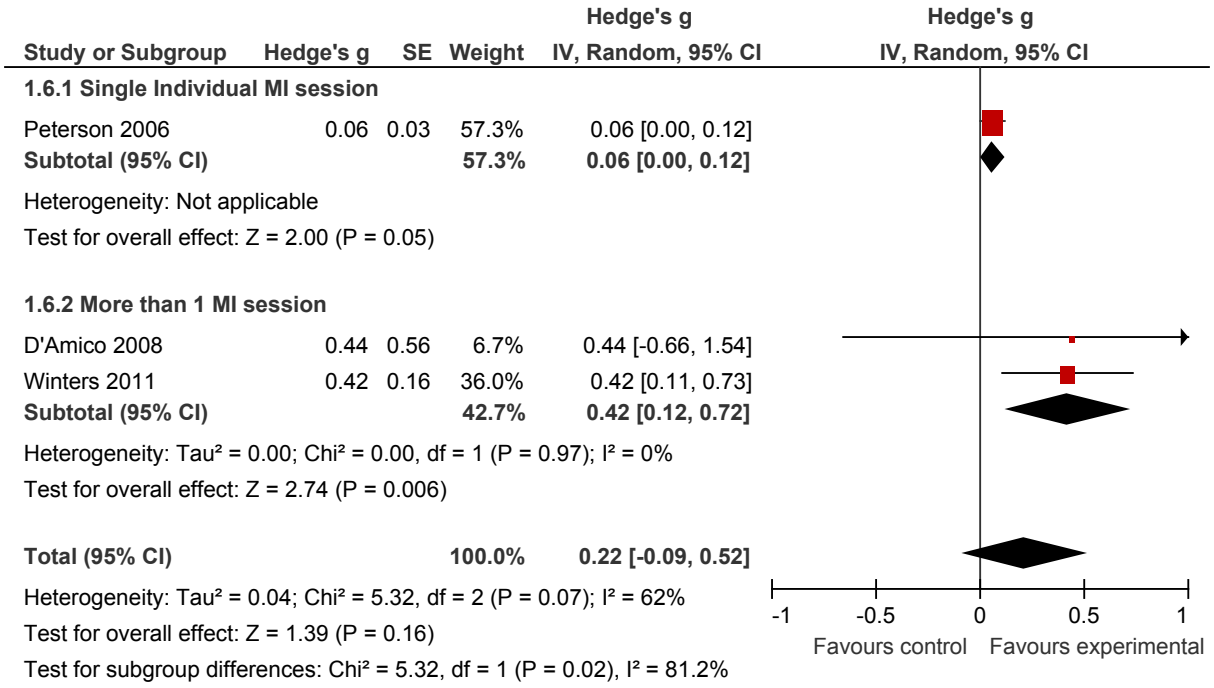

Figure 13. Forest plot of marijuana use outcomes.

Comparison of Secondary Outcomes

A number of behavioural outcomes were measured in these seven studies. These included specific instruments that measured risky behaviours associated with substance use, such as the Rutgers Alcohol Problem Index, which examines substance-related fighting and aggressive behaviour (Peterson et al., 2006) and the Personal Consequences Scale, which examines legal consequences and other problematic behaviours (Winters et al., 2012). Other outcomes included driving under the influence of substances (Spirito et al., 2004; Stein et al., 2006), violent and aggressive behaviours (Walton et al., 2010), and other risky behaviours (Bailey et al., 2004) and consequences (D'Amico et al., 2008; Peterson et al., 2006; Walton et al., 2010; Winters et al., 2012) associated with substance use. Two studies were excluded because relevant statistics on behavioural outcomes were not provided (Spirito et al., 2004; Peterson et al., 2006; see Figure 14).

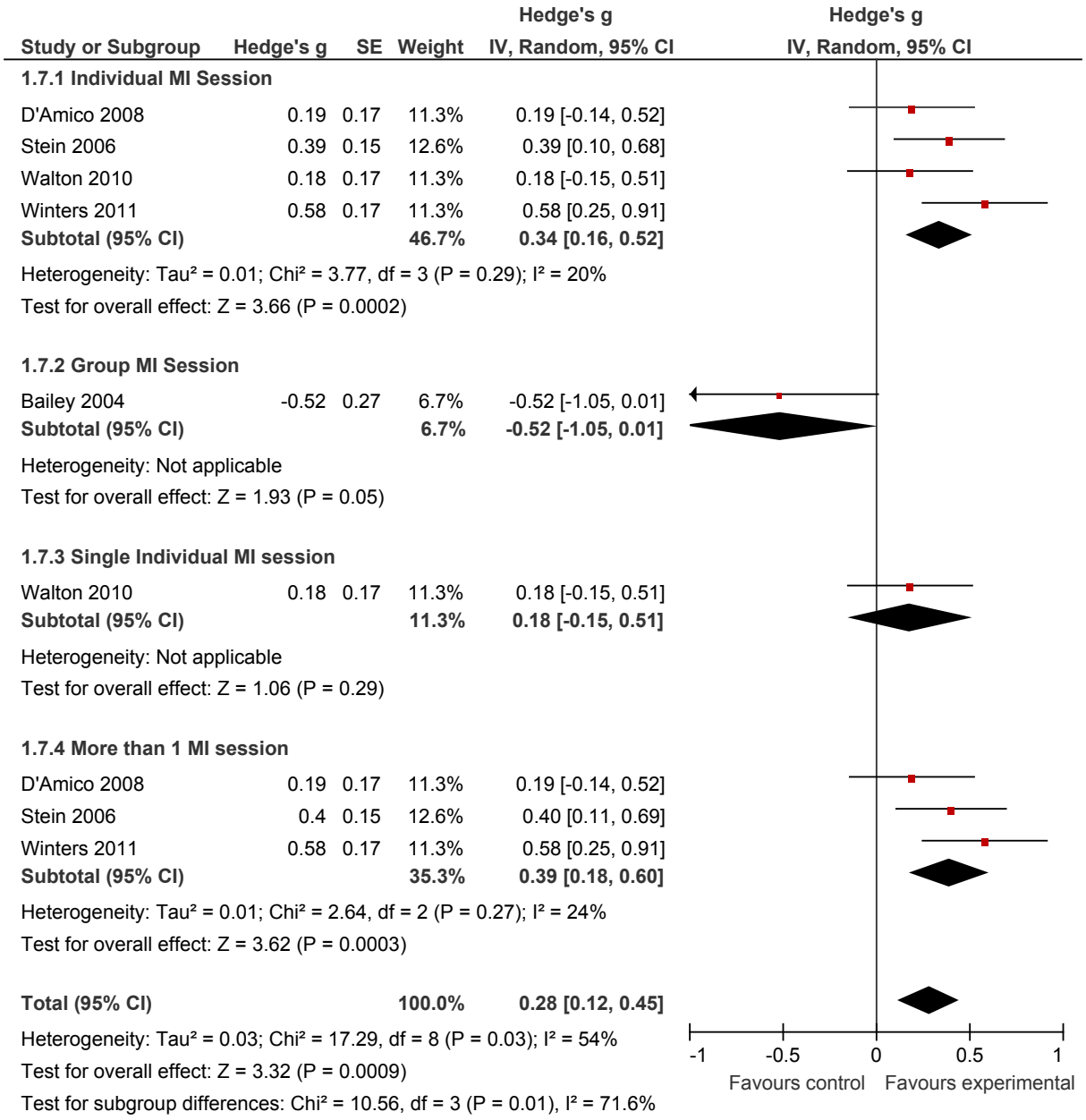

Figure 14. Forest plot of behavioural outcomes.

The results of the meta-analysis on behavioural outcomes reached statistical significance ($g = 0.28$, $p < 0.12\text{-}0.45$). In addition, the heterogeneity statistics indicated that the heterogeneity between studies was significant ($X^2 = 17.29$, $p = 0.03$, $I^2 = 54$ %; see Figure 8). To further understand findings, subgroup analyses were conducted. These showed that interventions delivered in an individual format ($g = 0.34$, 95% CI: 0.16-0.52) had a significant

effect on behavioural outcomes, while the control group showed better outcomes than the experimental group for the intervention delivered in a group format ($g = -0.52$, 95% CI: -1.05-0.52). Individual interventions that consisted of multiple sessions ($g = 0.39$, 95% CI: 0.18-0.60) had a significant positive effect on behaviour outcomes, while those that consisted of single sessions did not have a significant effect ($g = 0.18$, 95% CI: 0.15-0.01). Further analysis showed drug use consequences were significant ($g = 0.31$, 95% CI: 0.05-0.58) but alcohol consequences ($g = 0.06$, 95% CI: -0.17-0.30) were not significant (see Figure 15 and 16). A sub-group analysis showed that the provision of more than one intervention session significantly reduced drug use consequences ($g = 0.45$, 95% CI: 0.18-0.73).

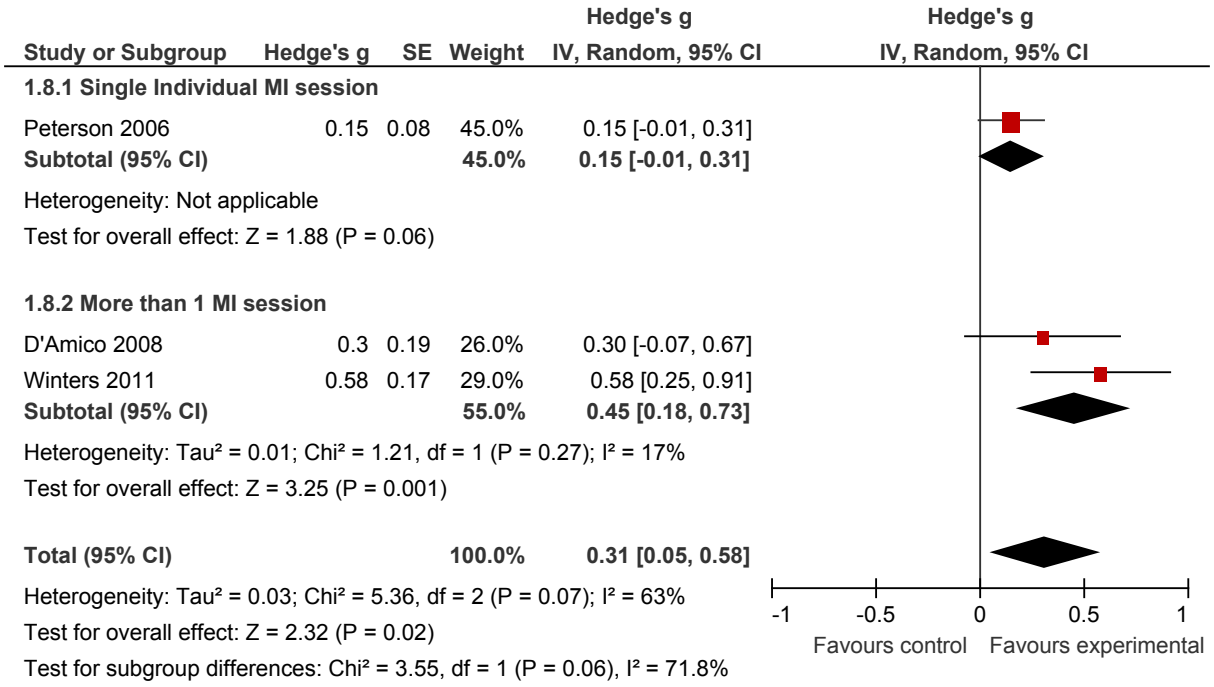

Figure 15. Forest plot of drug use consequences.

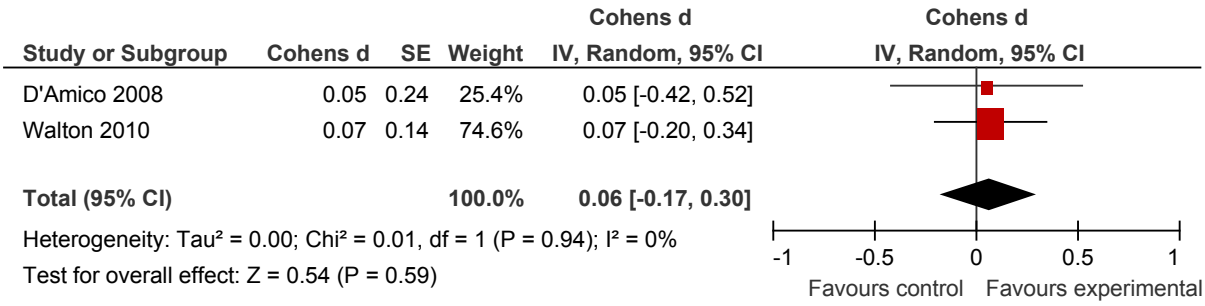

Figure 16. Forest plot of alcohol consequences.

Discussion

Effect of BIs on Adolescent Problem Behaviours: When and Where to Implement BIs

This review is the one of the first to examine the effect of BIs on adolescent alcohol *and* drug use and other behavioural outcomes. This review therefore adds valuable evidence for the effectiveness of interventions that address two risk behaviours simultaneously. The results indicated that BIs included in this systematic review generally had a positive, significant effect for substance use outcomes and behavioural outcomes. However, the included BI that was delivered in group format led to negative effects on behavioural outcomes as the effect size was below zero. Both findings are important for policy makers for a number of reasons. First, all the interventions included in the meta-analysis reported significant reductions in substance use, providing strong evidence in support of the effectiveness of BIs for adolescent substance use. As BIs are indicated for preventing the progression of substance use to more severe and chronic problems, which require specialized treatment (Levy et al., 2008; Winters et al., 2007), these findings suggest that intervening early with adolescents is beneficial. It may also be cost-effective to intervene before more intensive, resource-consuming services are required. More specialised treatment can place increasing burdens on already-strained resources.in developing countries such as South Africa (Myers et al., 2008).

Together with screening for substance-using adolescents, BI can be conducted in a number of places with adolescents such as schools and community settings. This could possibly further take some of the burden off more specialised treatment providers, but also provide services to adolescents who do not have access to the health care system (Winters et al., 2007). Research indicates that only a small proportion of adolescents who meet criteria for substance use treatment actually receive treatment, both in developed (Substance Abuse and Mental Health Services Administration, 2011) and developing country settings (Flisher et al., 2013). While this may partly due to limited resources and access to treatment (Myers et al., 2008; Substance Abuse and Mental Health Services Administration, 2006) there are also a small number of available treatment models (Substance Abuse and Mental Health Services Administration, 2006).

Characteristics of Recommended BIs: Duration and Type of Intervention Delivery

The brevity of the BIs included in this systematic review suggests that interventions do not need to be lengthy to be effective with adolescents. The overall length of the BIs used in these studies ranged from sessions of 15 minutes long to 90 minute booster sessions. This is important for policy makers as there are cost implications associated with lengthier interventions. Brief interventions are among some of the most cost-effective types of behavioural treatments (Babor et al., 2007). Preliminary studies, mainly conducted among adults in health care settings in countries including Vietnam (Higashi & Barendregt, 2012), Cambodia (Ezard, Debakre, & Catillon, 2010) and South Africa (Myers, Stein, Mtukushe, & Sorsdahl, 2012; Sorsdahl, Stein, Weich, Fourie, & Myers, 2012), found BIs to be a feasible way to intervene with substance users in settings that have limited human and economic resources. Since BIs require fewer resources, they place less of a burden on health care staff and systems, and also seem to be acceptable to both clients and healthcare professionals.

This review also provided evidence for the format best suited to delivering these interventions to at-risk adolescents. When sub-group analyses were conducted to compare the effectiveness of interventions delivered in individual versus group format and those delivered over single versus multiple intervention sessions, a clear pattern of findings emerged which favoured the delivery of interventions in an individual-format and over multiple sessions. A single intervention session may not be long enough to change relatively entrenched behaviours. The results of the meta-analysis suggested that for behavioural outcomes in particular, multiple sessions were more effective in eliciting change than single-session interventions. This fits with the very limited evidence the effects of BIs on delinquent-type behaviour. Dembo et al., (2011) suggested the use of multiple-session BIs with substance-using truant youth who may show other minor delinquent behaviours, and provisional findings suggested that this may be a promising intervention for these adolescents.

In contrast, interventions delivered in group formats or in single sessions seemed to have a negative effect on behavioural outcomes (Peterson et al., 2006). This is consistent with previous research, which found group interventions to be harmful for high-risk adolescents, for both short- and longer-term outcomes such as convictions for criminal activities and psychiatric problems (Dishion et al., 1999). There are a number of reasons that have been provided for these negative effects in in the literature. Dishion et al. (1999) argue that it occurs through a process of deviancy training whereby adolescents receive positive attention from peer group members for problem behaviours. Furthermore, delinquent-type adolescents are often removed from activities with more pro-social peers (Gifford-Smith et al., 2005), and seek out friends who engage in delinquent-type problem behaviours (Simons-Morton, Haynie, Crump, Eitel, & Saylor, 2001). However, more recent studies have shown that the provision of adolescent services in group format does not always worsen their problem behaviours. A systematic review conducted by Tanner-Smith and Lipsey (2014) found that

individual- and group-based interventions had similar effects on adolescents' alcohol outcomes, while Burleson, Dennis and Kaminer (2006) found that group-based treatment did not have a negative effect on adolescent behaviours in their study. Group interventions are more feasible in resource-poor settings, but it is important that to ensure effectiveness at a slightly higher cost, if necessary. It should be mentioned that there was only one group-format intervention that met the inclusion criteria for this review, which cannot be generalised to all types of group interventions. Clearly this is an area that warrants more research in developing countries before policy recommendations can be made, and Chapter 6 will address some of the contextual factors that are influential in such a setting.

Effect Sizes

It should be noted that although the effect sizes obtained are classified as small according to Devilly's (2005) interpretation of Hedges *g*, Lipsey and Wilson (2001) critique this and mention that one also needs to take the context of the intervention into account when interpreting effect sizes. A small but significant effect size, as found for a number of the outcomes in this review, can be meaningful for an intervention such as BI, that does not need as many resources as more specialised services, and also does not demand too much of the participant (Lipsey & Wilson, 2001). In these populations of substance-using adolescents, it can be concluded that the effect sizes are acceptable. Further, the review points to interventions that seem more likely to be effective than others, as they have stronger effect sizes even after they have been weighted for sample size. This may be of value to policy makers who are looking for a strong evidence base to guide the adoption of one intervention vis-à-vis others.

The BI with the largest effect. One of the interventions included in the meta-analysis seemed more effective than others as it had the biggest effect sizes for the following outcomes: overall substance use in general, alcohol frequency, behavioural outcomes, and

drug use consequences. This BI was identified as *Teen Intervene* (Winters, Botzet, Fahnhorst, & Leitten, 2006). *Teen Intervene* has been registered with the U.S. National Registry of Evidence-based Programs and Practices since 2007 (Substance Abuse and Mental Health Services Administration). It consists of two sessions with adolescents, and one with the adolescents' parent, and addresses components such as skills-building. It is goal-oriented and based on the principles of motivational interviewing and self-change (Winters et al., 2012; Winters & Leitten, 2007). It is also the only intervention in this review that included a session with the adolescents' parents. This is relevant as previous research has indicated that the involvement of key family members in interventions with substance-using adolescents who also face other problems (such as truancy and involvement in justice-diversion programs) is useful and may lead to sustained changes in behaviour (Dembo et al., 2011).

This review therefore suggests that *Teen Intervene* may be a powerful intervention for adolescents who use substances. However, it might need to be expanded and adapted to include a stronger focus on delinquent-type behaviours (and not just legal consequences associated with substance use). There is some evidence that the programme can address these behaviours, as Dembo et al., (2011) have used it with truant adolescents. In addition, none of the BIs included in the systematic review (including *Teen Intervene*) have been tested in developing countries. While it is more cost-effective to adapt an existing evidence-based programme than to develop a new intervention (Myers et al., 2010), it is important that research is conducted in this area to ensure that the adapted interventions work well in the target setting. Although there is some promising intervention work on substance use and other problem behaviours from developing regions, none of these studies met the inclusion criteria for this review as they were mainly descriptive, non-experimental studies (Martínez et al., 2008). It is therefore recommended that the specific context for this study, namely poor

communities in Cape Town, South Africa is explored (to be presented in Chapter 6) and the intervention tailored so that the intervention is feasible for this setting (reported in Chapter 7).

Limitations of the Current Study

Findings from the current study should be considered in the light of some limitations. First, there was substantial heterogeneity between the studies. There were differences in the study methodologies used that made comparison difficult. In this systematic review, the length of follow-up appointments, and study quality, especially in defining and reporting outcomes, varied substantially across studies. In terms of the behavioural outcome measures, these were not defined in a standardised manner and were sometimes quite broad. Some studies used measures that included multiple consequences of substance use that were not necessarily related to the behavioural outcomes of interest, and these could not be separated out in the meta-analysis (for example, getting into trouble with family (D'Amico et al., 2008)). This clearly highlights the need for future studies that provide integrated interventions that directly target substance use as well as substance-related behavioural outcomes within the context of the intervention.

Second, as it was not expected that a large number of intervention studies would be found that addressed substance use and behavioural outcomes, the inclusion and exclusion criteria for this review were not as rigorous as they could have been as studies did not necessarily have to be randomised controlled trials. Future systematic reviews that are not as exploratory in nature should aim to include only randomised controlled trials so that stronger evidence of intervention effectiveness can be provided. In addition, all of the included studies were conducted in the USA except for one which was conducted in Australia, with none being from developing countries. It is therefore unknown if these interventions will be generalisable to such settings, which the following two chapters will address (Study V and VI).

A final limitation of the study is that two individual studies had to be excluded from the meta-analysis because the results did not contain enough detail to calculate effect sizes. Although the authors of these individual studies were contacted, it was not possible to obtain this additional information. This could have led to the "file drawer" problem (Dalton, Aguinis, Dalton, Bosco, & Pierce, 2012) which states that statistically non-significant results are less likely to be published in journal articles and in turn, less likely to be included in meta-analyses. This could result in a biased sample with effect sizes reported as larger than they would have been if such non-significant results had been included. However, Dalton et al (2012) found in their extensive study that for the most part, this does not threaten the validity of meta-analysis, so it is possible that it did not lead to bias in the current study either.

Conclusion

This study has found that *Teen Intervene* is an effective, evidence-based BI in reducing both substance use and at least some delinquent-type or criminal behaviour. It was found to be the most promising of the interventions included in this review. This could be of relevance to service providers, as it provides them with information that can guide recommendations on which BI to use with adolescent substance-users. In addition, the study also identified certain characteristics that seem common to the most effective BIs, such as individual-delivery and multiple intervention sessions. This could inform how service providers in Cape Town implement interventions aimed at adolescents, but before this can happen, further research needs to be conducted on if this BI would need to be modified in any way for this context.

Chapter 6 (Study V)

Understanding Contextual Influences on Substance Use and Delinquent-Type Behaviour among Adolescents in Cape Town

In the previous chapter *Teen Intervene* was identified as a promising brief intervention to address substance use and delinquent-type behaviours among adolescents. Before this intervention can be piloted among adolescents in Cape Town, its ecological validity needs to be established. This will be done in two ways in the current study: first, by looking at what the literature has found on these problem behaviours among adolescents in Cape Town; and second, by obtaining the perspective of adolescents who live in the selected communities in Cape Town.

As indicated in Chapter 2, both substance use and delinquent-type behaviours are prevalent among adolescents in Cape Town. This targeted population does not live within a vacuum and risk behaviours may be influenced by factors that occur within their social and physical environment. While there has been a substantial amount of research conducted on the individual risk factors for substance use and delinquency among adolescents, less extensive research has been conducted on how socio-ecological factors such as peer, family societal and cultural factors may interact with individual risk factors (Barboza et al., 2009; Hernández, 2009; Mason, Cheung, & Walker, 2004; Snedker, Herting, & Walton, 2009). This chapter addresses this gap by using Bronfenbrenner's (1977) ecological model as a framework to further explore how the different levels of the environment influence problem behaviours among adolescents in Cape Town.

Ecological Model

Originally developed in 1977, and later revised in 1994, the ecological model argues that to fully understand human development, one should consider the influence of the social environment (Bronfenbrenner, 1994). The model describes the following structures as part of

the ecological environment (see Figure 17 below). The first is the microsystem, which is the immediate social environment where interpersonal relationships between the adolescents and others occur in close proximity to them. This can consist of family members, peers and those within the school setting (Bronfenbrenner, 1994). An example of how the microsystem can affect adolescents' problem behaviour is peer or family modelling of substance use, which puts them more at risk of engaging in this behaviour themselves (Ennett et al., 2006).

The mesosystem consists of interrelations between microsystems, and can be defined as the linkages and processes that occur between the adolescent and two or more settings, like school and their home environment (Bronfenbrenner, 1994). An example may be if family processes affect relationships in the peer group, such as being close to family, this can moderate the effect of having peers who use alcohol on the adolescent (Ennet et al., 2008).

The exosystem also consists of the linkages and processes that take place in two or more settings. Even though the adolescent is absent from at least one of these settings (Bronfenbrenner, 1994), the adolescent may still be affected by peers, family members or the school that are part of. This system is seen to be more remote and may have a more indirect influence on adolescents. An example is the neighbourhood or community that an adolescent lives in (Bronfenbrenner, 1994; Ennett et al., 2006).

The macrosystem refers to the larger cultural context in which the other systems function. It takes into account customs, norms, lifestyles, opportunities and resources that may exist for a certain adolescent (Bronfenbrenner, 1994). An example of the influence of the macrosystem is the cultural norm of frequent alcohol use, which could affect adolescents even though they cannot change this norm.

According to this model, adolescents can develop positive or negative behaviours through their interactions with the above-mentioned systems. These interactions can be direct (with the micro- and mesosystem) or indirect (with the exo-or macrosystem). A number of

international studies have utilised this model as a framework to explain adolescents' engagement in problem behaviours (Brenner, Bauermeister, & Zimmerman, 2011; Ennett et al., 2006; Mason et al., 2004; Mason et al., 2009). The next section will discuss the existing evidence for each system's influence on adolescent substance use and delinquent-type behaviour.

The Developing Adolescent: Intrapersonal Factors

Findings from previous research show that intrapersonal factors are associated with substance use. These include psychological traits such as sensation-seeking and rebelliousness (Cleveland, Collins, Lanza, Greenberg, & Feinberg, 2010; Monahan, Egan, Van Horn, Arthur, & Hawkins, 2011), positive attitudes towards problem behaviours (Cleveland et al., 2010; Monahan et al., 2011), as well as demographic characteristics such as the adolescents' age and sex (Mennis & Mason, 2011; Snedker et al., 2009) as mentioned in Chapter 1 and found in Chapter 2.

These intrapersonal risk factors are believed to uniquely contribute to adolescent substance use, but also interact with risk factors that exist within the micro-, meso-, exo- and macrosystems. For example, age is an intrapersonal risk factor for involvement with substance use (Mennis & Mason, 2011), but this could be because older adolescents may have more independence, spend more times with their peers, and may be less protected by family members in terms of their social networks.

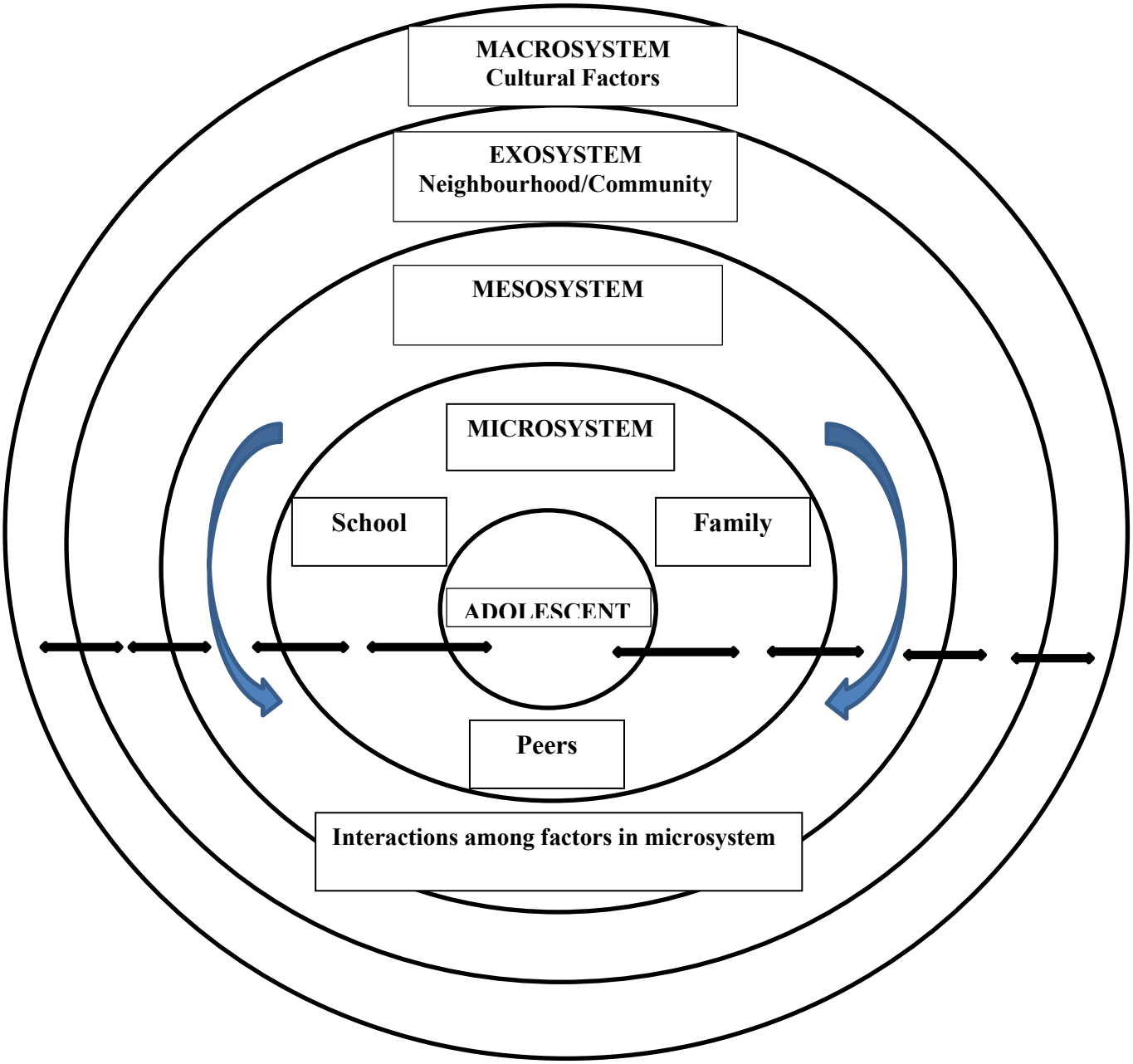

Figure 17. Conceptual framework of the social context of adolescent problem behaviours based on Bronfenbrenner's ecological model.

This means that their age can increase their risk of substance use depending on the places that they frequent (mesolevel factors) as well as whom they are closest to (microlevel factors).

Gender can also be a risk factor. Studies have generally shown that male adolescents are more likely than females to engage in substance use and delinquent-type behaviours, both in developed (Hibell et al., 2012; Johnston et al., 2013) and developing countries (Madruga et

al., 2012; Reddy et al., 2010), partly due to having substance users within their social networks (Mennis & Mason, 2011).

Microsystem: Peers, Family and Schools

Adolescents are strongly influenced by people within their social networks. These includes family members, and also peers who are increasingly important influences on adolescents (Brook et al., 2006; Ennett et al., 2006).

Previous research that has utilised the ecological model to explain adolescent problem behaviour has found that the quality of parenting can either have a positive or negative impact on substance use. Parental substance use appears to be a risk factor for alcohol use especially in adolescents, who may model their behaviour on their parents' behaviour (Brenner et al., 2011; Chuang, Ennett, Bauman, & Foshee, 2005; Ennett et al., 2006). Family stress has also been identified as an interpersonal risk factor (Ennett et al., 2006). On the other hand, parental monitoring, closeness (Brenner et al., 2011) and support (Chuang et al., 2005; Ennett et al., 2006) have been associated with decreased alcohol use.

Research has also indicated that peers are influential in adolescents' engagement in risk behaviours. Evidence suggests that having deviant peers in one's social network influences substance use initiation and continued use. Peers with social networks that contain a high number of substance using peers are more likely to begin using themselves (Ennett et al., 2006; Mason et al., 2004; Valente, Gallaher, & Mouttapa, 2004). Adolescents have been found to model their behaviours on their peers' behaviours (Ennett et al., 2006). This relationship was seen as bidirectional, as Chuang et al. (2005) also found that adolescents who used substances were more likely to seek out peers who also used substances.

The influence of substance-using adolescents has been found to extend into the school setting (Brenner et al., 2011; Mennis & Mason, 2011). Peers at school seem to particularly influence delinquent-type behaviour. In Mennis and Mason's (2011) study, adolescents

whose social networks included peers who brought weapons to school and were violent, described themselves as at-risk of engaging in problem behaviours. Teachers and authority figures, on the other hand are seen to be protective factors. Previous findings indicate that if they provide safety and structure to learners (Mennis & Mason, 2011), the learners are then less likely to abuse substances. There are thus a number of studies that have identified microsystem influences on these problem behaviours.

Mesosystem: Relationship between Microsystems

In contrast**,** there is less evidence on the mesosystem, or the relationships between the different levels of microsystems. Ennet et al. (2006) did assess the role of the mesosystem specifically in their study across peers, family members and within schools. Their findings indicate that the mesosystem appears to influence adolescents' problem behaviours, as positive family regulation was protective against the influence of peers' alcohol use. The findings indicated that having family members that used alcohol, as well as high levels of stress within the family, increased peers' and school friends' risk of alcohol use. However, for the most part, existing literature on mesosystem influences on problem behaviours is sparse, and more evidence is needed on how microsystems interact to influence behaviour.

Exosystem: Community or Neighbourhood Context

Some research exists on the role that the adolescents' neighbourhood may have on problem behaviours. Living in high-risk neighbourhoods has been found to influence adolescents' behaviours. For example, existing research indicates that adolescents living in areas with lower socio-economic status may have more access to alcohol (LaVeist & Wallace, 2000). Ennet et al. (2006) found that adolescents who had neighbours who used substances were more likely to engage in alcohol use. On the other hand, some research did not find neighbourhoods were a risk factor. For example, recent studies found that communities with positive neighbourhood norms towards substance use (Musick, Seltzer, &

Schwartz, 2008) and disorganised neighbourhoods (Snedker et al., 2009) did not seem to put adolescents at increased risk of substance use and delinquent-type behaviour. Alternatively if the exosystem is the risk environment, positive microsystems with the exosystem might moderate or reduce risk.

It seems that the exosystem (neighbourhood) also interacts with the microsystems (family, peer and school contexts) embedded within it to increase risk. For example, parents who live in disadvantaged neighbourhoods have been found to have poorer mental health, coping, and parenting behaviours, which is associated with adolescent substance use (Brenner et al., 2011; Chuang et al., 2005; LaVeist & Wallace, 2000). Substance-using peers in the neighbourhood also seem to interact with other neighbourhood characteristics, and act as a risk factor for adolescent alcohol use. Cheung et al (2005) found that adolescents who lived in such neighbourhoods were more likely to have friends who used alcohol, which influenced their own alcohol use, while Ennet et al., (2006) found that adolescents who used alcohol were more likely to model their behaviour on other adolescents in the neighbourhood. This indicates that simply living in a disadvantaged or disorganised neighbourhood alone may not put adolescents at risk of problem behaviours, but that interpersonal factors mediate the context. However, these studies have two shortcomings. First, their focus was on alcohol use, and other drugs were not really considered. Second, the neighbourhoods included in the studies were not especially risky in terms of high crime or violence rates.

Macrosystem: Cultural Issues

The macrosystem is the overarching system within which these problem behaviours occur. Looking at the broader aspects of society, such as culture and societal norms, can assist in understanding adolescents' behaviours (Ennet et al., 2006), especially as communities are increasingly influenced by globalisation. Media and advertising are believed to help explain adolescents' substance use. For example, a recent review found that exposure

to media and alcohol advertising is associated with the likelihood that adolescents will initiate alcohol use, and for those who already use alcohol, increase their use (Anderson, de Bruijn, Angus, Gordon, & Hastings, 2009)

Another way that media has been found to influence adolescents is through popular sub-cultures, such as the hip hop subculture. Elements of this subculture, such as specific types of rap music that promotes violence, have been associated with adolescents' engagement in minor delinquency (Ter Bogt, Keijsers, & Meeus, 2013) and substance use (Diamond, Bermudez, & Schensul, 2006).

Research from Developing Countries

The focus of research conducted on adolescent problem behaviours has been mainly on intra- and interpersonal risk factors for adolescents. Studies incorporating work on mesosystems which may affect adolescents' substance use is in its infancy. Previous research on the role of neighbourhoods or social networks in developing countries is even more limited, but some work has been conducted in China which looked at how neighbourhoods interact with peers and parents (Costa, 2005) and in Mexico addressing peers and tobacco use (Ramírez-Ortiz, Caballero-Hoyos, Ramírez-López, & Valente, 2012).

Two South African studies have attempted to consider the ecological context on adolescents' alcohol use. In an earlier study, youths who lived in neighbourhoods (exosystem) with easy access to alcohol and a lack of police and neighbourhood response to youth drinking, were more likely to have been drunk (Parry et al., 2004). The study also found that intrapersonal characteristics explained problem behaviour, as older adolescents were more likely to use alcohol. The microsystem was also identified as having an influence on behaviour, as youth who drank alcohol were more likely to have peers who used alcohol. While this study did address social context, social networks and to some degree individual risk factors, it only explored a predefined set of variables within the ecological model. A

more recent study attempted to look at how neighbourhood characteristics in a rural community in Limpopo Province, South Africa (Onya, Tessera, Myers, & Flisher, 2012), interacted with substance use. They found that community norms supportive of substance use and adults' engagement in antisocial behaviour were positively associated with the use of home-brewed alcohol. However, this study was conducted in a rural setting and findings may not be generalisable to other, more urban communities. In addition, both of these studies did not consider drugs other than alcohol use, and did not look at delinquent-type behaviour.

It is important to outline the value of the ecological model, and see how it can be applied to examine the ecological validity of *Teen Intervene* for use among adolescents from Cape Town. The communities that the targeted population live in (see Chapter 3 and 4) are known to have high levels of socio-economic problems, and therefore unpacking how the exosystem might influence behaviours among adolescents may be relevant. For example, high levels of crime, especially drug-related crime, have been reported in Elsies River, Belhar, Bishop Lavis, Ravensmead and Delft. This has been coupled with various other social problems such as high levels of shebeens (informal drinking establishments) and places where drugs are sold (Erasmus, Mans, & Jacobs, n.d.). To our present knowledge, no formal research has been conducted on the social contexts of substance use and delinquent behaviours in these communities, or on the interaction of social networks and individual risk factors.

Aim of the Study

This chapter empirically explores the role that social context plays in the risk for adolescent substance use and delinquent- type behaviours. Specifically it addresses Study V's aim (see Chapter 1), which was to utilise the ecological model to identify a range of factors that influence substance use and delinquent-type behaviours within disadvantaged Cape Town communities.

Method

In order to get an idea of how the different systems influenced adolescents' problem behaviours within these communities, key informant interviews and focus groups were undertaken with service providers and adolescents who lived in the community respectively. These two groups were selected to find out the effect of the micro, meso, and macro level environment on adolescent substance use from the perspectives of adolescents themselves, as well as obtain an overview of the contextual and service issues facing adolescents from service providers.

Study Design

Semi-structured interviews were conducted with service providers and focus groups conducted with adolescents themselves. These were thought to be the most appropriate data gathering methods to obtain participants' opinions and experiences about adolescent issues, so that adolescents did not feel reluctant to voice their true opinions or feel pressured to answer in a specific way in an individual interview (Peterson-Sweeney, 2005). Individual interviews were conducted with service providers to make the data collection process easier for the participants as the interviews could take place at a time and place of their convenience, instead of the logistics of organising this for a group of service providers.

Sample Characteristics

Service providers. Purposive sampling of service providers was undertaken by selecting individuals based on specific purposes associated with answering the study's questions (Teddlie & Yu, 2007). For the current study, service providers who worked in the Metro North Education District were selected, as the intention is to implement the intervention in communities within this district. In order to include a representative set of service providers, participants were from a number of organisations. Eight participants worked in the Western Cape Education Department, who were either heads of secondary

schools in the area, or worked in various capacities with regard to psychosocial services or substance use and/or behavioural programmes. The other six participants worked at organisations that provided these communities with assistance in the areas of substance use and delinquent-type behaviours, such as running programmes that focused on behaviour change.

The final sample consisted of 14 individuals. This number was considered as adequate, since no new themes emerged in the final few interviews and saturation was therefore reached. All of the service providers were in a managerial role or were directors of their organisations, but due to a common lack of resources, they often had to fulfil a number of roles simultaneously. Five of the participants were women and nine were men. Service providers had been delivering services to adolescents for between six months and 31 years.

Adolescents. Thirty-one adolescents participated in five focus groups. Communities that fed into the Metro North Education Department were selected for recruitment. Two field workers frequented social spaces (such as sporting grounds, empty spaces near housing developments and public libraries) where adolescents are known to congregate in the communities in order to recruit participants. The inclusion criteria were that adolescents had to be from disadvantaged backgrounds; between the ages of 13 and 16 and attending school (or the equivalent of school); could speak English; and screened positive for substance use as well as two externalising behaviours or any criminal or violent activity in the previous six months according to the GAIN-SS (refer to Chapter 3). Field staff members were trained in the administration and scoring of the GAIN-SS, and the investigator also verified all screeners to check that adolescents were eligible for this part of the study.

The adolescents who participated in focus groups were aged 13-16 years old. Eleven of the participants were male (mean age 15, standard deviation 0.47) and twenty of the

participants were female (mean age 15, standard deviation 0.97). In terms of ethnicity, all of the participants were "Coloured" except for two who were Indian.

Measures

Semi-structured interview. Service providers were asked to describe adolescents' problem behaviours in the communities where they provided services, as well as the consequences of these behaviours. They were also asked their perceptions of brief interventions, and to use their own experience in providing recommendations of how to work with high-school substance users who had additional problem behaviours (see Appendix K). Questions were open-ended and probes were included to elicit more detailed responses from participants if necessary.

Focus Group. Questions for the adolescent focus group schedule were developed around alcohol and other drug use, delinquent and other problem behaviours, consequences of problem behaviours and how changing behaviours around alcohol and other drug use may influence high school learners' life choices. They were also asked about possible support that adolescents receive from parents or guardians in dealing with substance use and delinquency, as well as existing services (Appendix L). As with the semi-structured interview, questions were open-ended and probes were included for the purpose of obtaining more detailed responses during the group discussion.

Procedure

Semi-structured interviews. For the semi-structured interviews, the researcher contacted the key informants, informed them that the study was focusing on adolescent substance use and delinquent-type behaviours, and then emailed or faxed an information sheet containing more details on the study (see Appendix M). The interview was then scheduled at their convenience, at their place of work. The investigator conducted the interview, while a research assistant with postgraduate training in qualitative research

methods, and who had been trained by the researcher in ethics for this study, took notes. All interviews were conducted in English, as participants were proficient in this language. Interviews were audio-recorded with the participants' permission. They took between one and one-and-a-half hours to complete. After all of the interviews were completed, they were transcribed verbatim by a professional transcription service. Once the results had been analysed, service providers who participated in the study were sent a thank you letter and a brief report on the findings that emerged from the interviews conducted with them.

Focus groups. Two field staff members conducted outreach in adolescents' natural settings as well as places in their community where they often spend time with friends (Morrison, Doucet, & LeBlanc, 2008) to recruit potential participants. They went into the various communities during school vacation and after school hours, and approached adolescents walking around in the community or in places where they are known to frequent such as public libraries and sports facilities in a non-threatening and respectful manner. They asked if they had friends or knew of anyone their age who would be interested in talking about substance use and problem behaviours amongst adolescents in their communities. If the adolescents indicated interest, they were verbally screened by a field worker in a private setting to determine if they used substances and engaged in delinquent-type behaviour. If it seemed as if they were possibly eligible, they were immediately formally screened by the fieldworker using the GAIN-SS (Dennis et al., 2008). If the potential recruit was eligible and interested in participating, they were given a date and time when the group would meet. They were also provided with a parental consent form (see Appendix D) and told to return it on the day of the focus group. To ensure optimal participation, participants were provided with a slip of paper containing the date and time of their focus group, and adolescents were telephoned the day before their allocated group. Finally, field staff members transported

participants in these focus groups to the venues (private spaces in public libraries) if necessary.

Once they arrived at the venue, the adolescents were provided with something to eat and drink. Either the researcher or the research assistant then briefly rescreened them using the GAIN-SS. The new screener was then double-checked to ensure that they were in fact still eligible for the study. Assent was obtained from all participants by reading out the assent forms, while the participants had a copy of the form to read themselves. Each participant had the opportunity to ask questions, or have the form translated into Afrikaans if they did not understand any of the terminology (see Appendix N). It was then checked with each adolescent that they understood what the focus group was going to cover, and what they were agreeing to. Once all of the assent forms had been signed and collected, the investigator discussed the ground rules of the group. Five focus groups were conducted with three to seven participants in each group, and each focus group lasted approximately an hour. As with the semi-structured interviews, focus groups were audio-recorded and then transcribed verbatim. Participants were provided with a R50 grocery voucher for their participation in the focus groups.

Data Analysis

The investigator and research assistant coded the transcripts separately. They met after the first three key informant interviews to ensure that they had a shared understanding of the main themes that emerged from the data. They then separately coded the rest of the key informant interviews, and met again to discuss any differences in understanding and themes. The same process was followed for the focus group interview transcripts. There were no major discrepancies between the two ratings.

Thematic analysis is a method for identifying, analysing, and reporting patterns or themes across a data set (Braun & Clarke, 2006). The transcriptions were read and all notes

were reread before analysis began, a process referred to as familiarisation (Braun & Clarke, 2006; Pope, Ziebland, & Mays, 2000). Themes were identified inductively across the data to find repeated patterns of meaning. These were issues and questions derived from the aims of the study as well as issues discussed by the participants and views and experiences that recurred in the data (Pope et al., 2000). These were coded and then grouped together into themes (Braun & Clarke, 2006).

Qualitative software was used to facilitate the thematic analysis of the data. The transcribed qualitative data was analysed line by line using the OpenCode software programme, which is a tool for coding qualitative data generated from text information by classifying and sorting it into codes and linking these codes to integrated concepts (Dhalgren, 2004).

Results

The results of the current study are organised according to Bronfenbrenner's (1994) ecological model, as it provides a context for the range of factors that influence substance use and delinquent-type behaviours. The themes are grouped together by the individuals' intrapersonal factors, interpersonal relationships that made up the microsystem, the exosystem or neighbourhood characteristics, relationships between systems (mesosystem) and macrosystem or overarching culture. For the most part negative factors were discussed, but there were also some factors that helped to protect against substance use and delinquent-type behaviour.

Adolescent Individual Characteristics: Intrapersonal Factors

Four major themes were identified that related to adolescents' intrapersonal factors associated with substance use: impulsivity; rebelliousness; learned helplessness; and demographic factors.

A few service providers believed that cognition and behaviour that are typical of adolescents' developmental stage influenced their engagement in risky behaviours. One of the characteristics that were mentioned was adolescents' impulsivity or making decisions with thinking about long-term consequences. Another characteristic was rebelliousness, which both adolescent respondents and service providers discussed. Their perception was that a number of adolescents in these communities have an "attitude" and are "disrespectful" towards authority figures, especially at school:

> ….sometimes you swear at teachers. If they told, tell you to do your work and then you tell them, "don't talk to me, don't tell me, I'm my own person don't tell me anything. (Male Focus Group Member)

Another psychological characteristic that was seen to put adolescents at risk of engaging in problem behaviours was reported by service providers only. They believed that learned helplessness increased adolescents' risk of engaging in problem behaviours if they believed that they could not change their socio-economic circumstances or leave the community they lived in. This led to adolescents who "lacked hope" and did not believe "that they are going anywhere".

Specific demographic characteristics of adolescents were viewed as enhancing the probability of engaging in both problem behaviours. For example, being of high school age was associated with a "change" in behaviours, especially substance use, according to key informant and focus group participants. The results around the influence of gender varied. Some service providers and adolescent participants described male adolescents as being traditionally more at risk, with participants estimating that to 99% of delinquent adolescents are male. Others felt that female teenagers were beginning to consume substances more often, and engage in fighting, especially over a boy's attention or to compete with male adolescents:

Participant 1: The girls always fight…

Participant 2: It's every…

Participant 1: …every afternoon….

Interviewer: Ok. So, what kind of things would girls fight about…is it the same things that boys fight about?

Participant 3: Yes.

Participant 1: Yes, but the girls mostly fight over boys.

Interviewer: Girls fight over boys.

Participant 2: But, nowadays the girls are, like, using drugs more than the boys…

Participant 1: More than the boys.

Participant 4: …wearing weapons like the boys.

Microsystem: The Family

The family was the first interpersonal influence on problem behaviour during adolescence that was identified through the key informant and focus group interviews. Four major themes emerged from the results, namely stress within the family, the adolescents' relationship with their family, normalisation of problem behaviours, and parental discipline and monitoring.

Both adolescent participants and service providers reported that in these communities, close family members' actions can increase risk for substance use. First, the data implies that family stress was common-place in these communities, where physical or verbal abuse often takes place:

> Since, hmm, they were little - and they went to bed at half past one (01h30) that morning because he verbally abuses them and goes outside and shouts and calls them the ugliest names and, hmm, yeah, so imagine, and she had actually tried to commit suicide last year; and her sister was out of the school for about four months to having to watch her. (Service Provider 13, Female)

Adolescent participants mentioned that adolescents in their communities often had problematic relationships with family members. In two of the focus groups, participants explained that they did not feel that children received enough love or attention from their family at home, and this increased their risk of engaging in problem behaviours:

> Participant 1: I think maybe your parents have maybe another boyfriend or so, so they're giving more attention to that one and not to her children.
>
> Interviewer: Okay, so the children aren't always the focus?
>
> Participant 2: Yes, but most children will run away "because my mother is giving more attention to her boyfriend" or "my father is giving more attention to his girlfriend so me and my brothers we will just sit there and watch the TV, so I am the oldest now and I'll run away because they don't care about, they don't actually care about me."

In addition, both adolescent respondents and service providers also mentioned that family members often normalised substance use, especially the use of alcohol. The participants believed that parents often modelled substance use and illegal behaviours for their children, as well as other negative or even illegal behaviours:

> Because you as the parent don't set an example. You're an adult, this is a school, you want your child to come to this school, and you are telling in front of your children that I'm a bad Principal?! Take your child and put him in another school! Silence! So the problem is with our parents; and 'yes' in our houses, in our houses they selling drugs, it's the merchants… (Service Provider 1, Female)

> Participant: Like, uhm, you see your mommy or someone drinking, now you tell her to stop, then she wants to hit you about that…
> Interviewer: Ok.
> Participant: …and now you try, try to be like her and then you're going to drink also. (Female Focus Group Member)

The level of family monitoring and discipline also seemed to influence engagement in these problem behaviours. A few service providers spoke about parents in these communities often leaving adolescents with other family members or friends. Other service providers discussed single-parent homes where due to parents' work responsibilities the adolescent is often left supervised at home alone or with younger siblings:

> Uh, it's more social issues, they stay in foster care, get a grant, not staying with their parents, or single parent, working parent, shift parent, hmm, yes. And if a parent is working shifts you know what is happening because it's not only during the day, it's during the night, and who's the parent then in the house? (Service Provider 1, Female)

Participants implied that parents' inconsistent disciplinary procedures increased adolescents' risk of engagement in substance use. Service providers suggested that by not having rules and regulations, these parents lost control over their children's behaviour. Adolescent participants agreed that some parents or families of adolescent substance users ignored or allowed substance use. On the other hand, adolescent participants mentioned that the use of extreme disciplinary measures also increased risk of substance use. Participants mentioned that parents who reacted to substance use with physical punishment or "throwing them out the house" installed a "don't care" attitude in their children.

> Well in general one can say it's the disciplinarian problems you know? We know that you know especially at that life phase, I mean discipline is challenging for parents, but I think when you know it's really becoming out of hand is when parents feel that they don't have control over the, the child especially in terms of you know adhering to certain basic kind of house rules in terms of you know are they you know being at home at certain times or conducting certain behaviours and so forth. (Service Provider 4, Male)

> …but that's why children is scared to, to give the form [from school requesting a meeting about adolescents' substance use] because their parents will start hitting them, the moment they come in by the door then they hit them. (Male Focus Group Participant)

However, other respondents mentioned that family or guardians can act as a protective factor within the environment if they "love" or "care" about their children. This finding implied that effective parents exercised fair disciplinary procedures, as they

established structure and guidelines around substance use or other delinquent-type behaviours. Respondents also described communication as a key preventative factor:

> Participant: Some parents are, are….uh, uhm….caring about their children….
>
> Interviewer: Mhmm.
>
> Participant: …..and they want, don't want them to do that, uhm, certain stuff….
>
> Interviewer: Right.
>
> Participant: ….uhm, doing drugs and drinking alcohol…..
>
> Interviewer: Mhmm.
>
> Participant: ….they don't want them to, uhm, land in trouble…they want them to have a, a beautiful future and that and that's why they talk, uh, these things to their children…..
>
> Interviewer: Ok.
>
> Participant: …..to keep them out of trouble.

Microsystem: The Influence of Peers

A number of themes emerged from the interviews around the influence of peers. Some of these were similar to the themes identified in the family relationships, such as the normalisation of substance use and delinquent-type behaviours. Other key themes included peer pressure and the influence of peers who had dropped out of school on adolescents' gang activity.

Substance use was viewed by participants as common-place in this context, and adolescent use was normalised, especially in social settings such as parties. They described the popular or "cool" adolescents as the ones who used alcohol, cannabis and other drugs,

and engaged in delinquent-type behaviours. Taking part in these behaviours was therefore viewed to be positively reinforced by peers:

> …yes alcohol abuse, of course the popular one is smoking of dagga which is so common place that kids don't really see that it is harmful. (Service Provider 12, Male)

> Participant 1: Or, if you're not popular on school you fight with someone who is popular and you must beat them in the fight, like, they must lose…
> Participant 2: ….and then you're, like, popular in the school.
> Participant 1: Then you become popular.
> Participant 3: So then, like, everybody "grands" [applauds] you for who you are because you did now hit her…

Both key informant and focus group participants discussed that adolescents who have substance-using peers in their social network, were more likely to use substances, and in turn more likely to engage in delinquent-type behaviour:

> Participant 1: You'll just be 'high', you will feel like doing anything.
> Participant 2: The wine speaks for you it's not you that speaks…
> Interviewer: Okay, so you would say that you're not really yourself?
> Participant 3: No you're not yourself.
> Interviewer: And that's the reason why….
> Participant 1: Hmm.

Interviewer: ….you get into fights and stuff.

> The behaviour is definitely different because I do think they sometimes think that they, hmm, much more matured than what the other children are, they think that they are more matured. And, hmm, that tolerance level also drops, if some child accidently bumps against them, they, whether that child say "sorry" or whatever, he apologises, they would already have said something else. So I do think it has a negative input on their behaviour. (Service Provider 5, Male)

Adolescent focus group participants also felt that peer pressure influenced adolescent engagement in substance use and delinquent-type behaviours. They discussed the fact that often peers would reject non-users as part of their friendship circle, or insult them by calling them names such as "chicken" or "bang gat":

Female Participant: It is hard for them because they know if they not gonna do it anymore then they can't be in a group like with the friends, then they can't be with them because the friends do it so they *must* do it.

Male Participant: Friends say you chicken

Adolescent participants mentioned that peers, especially those that have dropped out of school, also influenced whether adolescents became involved in gangsterism and other problem behaviours. Peers that had left school were described as more likely to become involved in gangsterism, and become heavy substance users who beg for money and steal:

Female Participant: They can become a gangster.

Interviewer: Become a gangster?

Male Participant: Yes they buy drugs and some children go on the streets or to the people's cars, some of the children go to the people's houses, ask for a 'stukkie brood' [piece of bread].

Three adolescent participants mentioned that having friends who did not engage in these problem behaviours could help to prevent the initiation or continuation of substance use and delinquent-type behaviours. These friends were described as "proper" friends who attended school, did not drink alcohol or use drugs, and generally did not get into trouble for their behaviours:

> They must, be friends with the right friends who do no drugs and drinking. Just normal, just be in the house, not drinking, fighting; or to take part in activities…. (Female Focus Group Member)

Microsystem: School Setting

Intrapersonal relationships also occurred within the school environment. Participants identified the following themes that increased adolescents' risk for problem behaviours: the presence of substance use and delinquent-type behaviours; and students' ability to conceal these behaviours. Discipline and other processes also featured as a theme that could protect these adolescents from problem behaviours.

Both focus group and key informant interviewees felt that alcohol and other drugs were present on school premises within the targeted communities during school periods and school events. They reported that these were often concealed from teachers as they occurred

in places such as toilets, school grounds and corners of buildings, or alcohol use was hidden in the guise of cool drink at school functions:

> …would bring you know juice bottles or those Powerade (energy drink) bottles, gym bottles and then the teachers will think you know it's completely innocent and there is actually vodka in there. Hmm, and it's the same thing that's happening at a lot of schools… (Service Provider 6, Male)

> Male Participant: They throw it in a cool drink bottle then they mix it already then they just come by the school then…..
> Female Participant: Uh, and, like, like, uhm, go, uhm, when they go out with the, with, with the school then they, they throw it in a 'Stoney' [cooldrink] bottle……
> Male Participant: ….. 'Stoney' 2 litre 'cause you can't see, uhm, through it then they mix it….

Participants also believed that certain delinquent-type behaviours take place on school properties in these neighbourhoods. Both adolescent and service provider participants reported that fights took place generally after school, as retribution for a previous fight and teachers would try to stop or "break up" fights. Fights were described as violent, with weapons being used and learners often being hurt, especially if a group "pak on" (packed on) against one learner:

> Male Participant: Perhaps there was, "miskien" [maybe] an argument the previous day and then the next day they will, like, perhaps, bring, like, a knife or something.

Male Participant: Or if they don't have a, have a, they will, like, tell people to come after school…

Female Participant: After school.

Male Participant: …and then one person walk and then the gang (inaudible)…

Interviewer: So, what you're saying, and I think we've heard this in the other groups as well, is that sometimes there'll be a fight…

Female Participant: Yes.

Interviewer: …with, like, say, one boy and then after school he'll go and call…

Female Participant: His friends.

Interviewer: …his friends and then it turns into a whole big thing, right?

Male Participant: Or he jumps over and then he go call his friends…

Female Participant: And then after school you go outside.

Adolescent participants also spoke about the use of other peers to act as look-outs or "soute" for teachers while they were using substances at school, so that these behaviours would go undetected:

> Yeah, they know about the smoking corners and they send the prefects or something there to the corners but the prefects just stand for moment or two then they go away again. So the children will (be) looking, okay now they going away now they coming again to the smoking corner and so on and some people just, some children sommer [just] smoke on the stand or something here by the teachers class when they are gone. (Female Focus Group Participant)

Participants discussed the way that school staff members try to prevent these problem behaviours from occurring within schools in disadvantaged communities. According to both adolescent learners and service providers, certain safety procedures are implemented to ensure that schools are safe places for adolescents. These include weapon and drug searches, conducted either by school staff or at times by police:

> Yeah by our school they sommer [just], they don't tell you what they coming, they just come and then they search the whole class, put your bags in front under the tables and carpets, yeah, then they search our bags because they don't give us a time because if they give us a time we won't bring stuff… (Male Focus Group Participant)

However, adolescents described ways to negotiate these searches so that they could still use substances or engage in problem behaviour despite school staffs' attempt to stop this:

> Male Participant: …outside, but in the parking area you will see, then you, then it must click by yourself, 'hide, uhm, hide your stuff'.
> Interviewer: I was going to say, I was just going to ask you, so if, if all the kids see the vans they obviously know that the police are there, right? How easy is it if you have dagga or alcohol in your cool drink bottle or cigarettes in your pencil case or whatever you have, to get rid of it quickly?
> Female Participant: They put it in plastic, uhm….
> Male Participant: ….uhm, chips papers then they throw it in the, in the bin there, uhm, in class…..then, uhm, if the police are gone, uhm….
> Interviewer: They won't find it.

Male Participant: ….then they won't find it then they just go fetch it again.

Another measure that was mentioned to try and discourage adolescents against substance use and delinquent-type behaviours was disciplinary procedures put into place at schools. Both adolescent participants and service providers spoke about suspension and expulsion as typical reactions to problem behaviours of different severity, due to schools' codes of conduct. Service providers also spoke about the provision of psychosocial support from the Metro North School District Education Department, as well as governing bodies, at some of the schools in these communities:

> We are very fortunate that we have, uh, we in a circuit where we get a lot of support from the Education Department. Our school social worker, our school Psychologist, even our, as we call them now the IMG managers, the institutional managers, the team leaders are very supportive. So, hmm, if we can't solve it then we refer, we call them in and they would also give us ideas… (Service Provider 5, Male)

In addition, staff members were generally believed to be under a vast amount of pressure according to service providers, for teachers deal with difficult issues that occurred in schools. They discussed that there is often a lack of resources at schools in the targeted communities which often leads to over-stretched teachers and overcrowded classrooms.

> …at schools where it's not because teacher attitude is one of the things that would enable the person to believe that "I can deal with this!" And many teachers find themselves and especially in schools where the pressure is very

> high, that they don't have time to deal with this, they don't have the energy to deal with this. In fact, "I don't know how to deal with this," then they just kind of wash the hands off the situation… (Service Provider 14, Male)

Exosystem: Neighbourhoods and Communities

Participants generally described the neighbourhoods as disadvantaged, with high levels of poverty, access to alcohol and illegal drugs, and affinity with gangsterism. Limited recreational facilities were also mentioned as possible protective factors against adolescent substance use and delinquent-type behaviours.

Poverty was mentioned as a prevailing characteristic by participants. One service provider and one adolescent participant reported that food was not always available and that houses were "overcrowded" or individuals lived in "backyard dwellings" (makeshift shelters at the back of houses). Poverty was seen to be linked to high levels of substance use by one of the service providers, especially methamphetamine or "tik". Participants also discussed that due to a lack of resources, there were few recreational facilities in these neighbourhoods. This meant that adolescents often frequented unsupervised areas together, a practice referred to as "sit(ting) on the yard". With no alternative activities to participate in, service providers felt that this is one of the reasons why adolescents initiate or continue substance use:

> And that's how many kids are exposed to drugs. And within communities there is very little recreation facilities especially high school kids they go home and they go sit on the yard or where they sell these drugs, (Service Provider 14, Male)

Both service providers and adolescent participants mentioned that adolescents had access to a number of places where substances were used, including friends' homes in their neighbourhood, liquor stores or more informal places like "a house that sells perhaps beers or ciders" like shebeens. Focus group participants reported that adolescents were able to buy alcohol through both liquor stores and shebeens, as they either looked "big" enough to buy alcohol, or would ask an older member of the community to purchase alcohol for them. Adolescents also said that they were aware where drugs could be bought, often at the "drug lord" or "merchant" or at corner shops in the neighbourhood, where drugs such as "tik" and "dagga" (cannabis) could be used. Service providers mentioned that in these neighbourhoods, both alcohol and drugs were easily available due to the high number of venues that sold these products:

> ....hmm, maybe because of the availability of drink and drugs in [community name] where there's plenty of shebeens or what the children will call a smokkie, plenty of them around - where in, in [community name] its, it's more of, of poverty. (Service Provider 6)

The majority of participants also spoke about the high level of gangsterism that existed within these communities. Gang members were perceived as associated with substance use and violence, and some adolescents were thought to have very close relationships with gang members of the community, referred to as "big ones". Adolescent participants reported that when one gets involved with gang members, they become like family members:

> Participant 1: Like, they won't go call, like, family, they will just call, they will call family but if their family is, like, gangsters… (Female Focus Group Member)
>
> Participant 2: …because it's always, like, 'my people is, like, this gangsters' and so on. (Female Focus Group Member)

Two of the service providers felt that their getting involved in gang activity was a way to escape from the poverty that was prevalent in the neighbourhoods, but that usually meant that they would be exposed to substance use:

> …then gangsterism becomes [an] option because it would feed my need, and the moment you touch that base you are exposed to all the dangers of drugs because for you now to acquire what you need, you need to also kind of do something for us. (Service Provider 14, Male)

Both service providers and adolescent participants did mention a few organisations that existed within these neighbourhoods that offer alternative pro-social activities. Examples such as places of worship or churches, or sports clubs, where adolescents can participate in in sports such as rugby, soccer and netball were provided. One service provider felt that engagement in these healthy activities can substitute for substance use:

> So that, that often becomes an option as an alternative to drug use, some of them might play for certain clubs over weekends in the community… (Service Provider 14, Male)

Mesosystem: Relationships between the Microsystems

Participants also described some between-context (microsystem) interactions that they thought could increase adolescents risk of substance use or delinquent-type behaviour, in the form of relationships between family and peers, and peers and school.

According to service providers, families exerted less of an influence on adolescent behaviour among adolescents who transitioned to high school and they were also seen as less aware of certain problem behaviours. This was described as coupled with stronger relationships with peers:

> So I would say the, not the challenges but the biggest differences between primary and high schools is that, hmm, drinking is, probably more socially accepted in high school. Uh, it's probably more in your face, you don't have to go around and steal it like you did in primary school. You can probably just go with your friends, go to you know a, a, that house that you know that they sell liquor in and go buy it knowing that, that you know, a teenager you getting together that evening… (Service Provider 6, Male)

The family environment was also seen to affect adolescents' performance in school, according to the key informant interview participants. Problems that existed at home were perceived to influence adolescents' performance and behaviour at school, especially regarding delinquent-type behaviours. A number of key themes around family interpersonal relationships were discussed here as influencing the adolescent within the school context, such as parental substance use (especially alcohol) and their relationship with parents. In addition, trauma such as family illness or death in the family or abuse at home, were seen to affect adolescents at school:

> …last week when a teacher brought a learner and he said he now had enough of this child, she has an attitude. She didn't want to get up in, when the teacher wanted to, there was another teacher that came into the class and she didn't get up to greet, and he was wondering but why you don't just get up and so on. And he told her and she refused and then he brought her down and he said but she had done this before and I asked her, "is there something the matter?" ...I pulled out the chair and said sit down and let's talk and she started crying she didn't want to sit down, and said "get my sister". And I had the sister come in…the father has been abusing them since, hmm, they were little - and they went to bed at half past one (01h30) that morning because he verbally abuses them and goes outside and shouts and calls them the ugliest names. (Service Provider 13, Female)

The relationship that adolescents had with peers outside of the school was seen to affect their exposure to substance use within the school. Both key informant and focus group participants discussed that having a close relationship with gang members affected behaviour in school. For example, it was reported that gang members gain access to school premises and interact with adolescents, who sell substances to other learners during the school day:

> It's a ritual they do; so I caught four of my learners making "zolletjies" (cannabis joints), and now they must sell it to give money to him to make his (the gangster's) life better.... (Service Provider 1, Female)

> Female Participant: Or, or some gangsters jump over our school and give packet of cigarettes for the kids….

Male Participant: To sell.

Female Participant: …..to mert, to mert….

Interviewer: Okay, so some, some gangsters actually jump over the fence and give cigarettes to kids?

Female Participant: Hmm, they have to 'mert' and give the money after school.

Male Participant: And to sell the cigarettes.

Participants also mentioned that peers could positively influence which school activities adolescents took part in. Having close friends that engaged in volunteer work was seen as influencing adolescents to also engage in these pro-social activities. Three focus group participants and a few of the service providers felt that if adolescents engaged in these activities during school time, it could help to protect adolescents from engaging in problem behaviours:

Female Participant: And they go out and….

Interviewer: Mhmm.

Female Participant: ….maybe to old age homes….

Female Participant: Help the….

Female Participant: They do things that perhaps the old people can't do for themselves.

So we have that; and then we have a group here, T for L, Teenagers for Life. Another teacher in-charge there, and so these kids also they, towards the end of the year or somewhere they will get goodies in and they will go to a Children's home...and read stories to the kids and give them little gifts and- we

> had in the past also where the T for L then I take the Choir and the ensemble and the T for L people would be for like the breakfast or so for the older folk.... (Service Provider 13, Female)

Macrosystem: Culture

Only two themes emerged from the data with regards to the macrosystem: advertising and the media, and "hip hop culture". Two service providers and one adolescent participant mentioned the role of advertising and the media as prominent in the community. Alcohol advertising with a focus on "success" and "popularity" of those that consume alcohol were discussed. In addition, one service provider mentioned that the exposure of adolescents to prevalent "hip hop" culture had an influence, especially on delinquent-type behaviours:

> …the fact that there is a hip-pop culture that purveys some societies and which has also affected the, hmm, even the white, the kids at school.....slang, the way they dress, the way they speak. There seem to be a kind of rebellious[ness]. (Service Provider 12, Male)

Discussion

Bronfenbrenner's ecological model was useful in making sense of the many social contexts in which the targeted adolescents' lives are embedded. This model has been utilised in previous studies in developed countries (Brenner et al., 2011; Chuang et al., 2005; Ennett et al., 2006) including South Africa (Van der Merwe et al., 2012) to understand how the individual's interactions with family, peers, schools and the community affect substance use, delinquent-type and violent behaviour. The model seems well suited here. Findings from the current study suggest that relationships in the microsystem (family, peers and school)

influenced substance use and other problem behaviours. Neighbourhood variables (exosystem), especially gang activity, also seemed to have an effect on adolescent substance use and delinquent-type behaviours. The findings also imply that there are some interactions between the systems that make up individuals' social contexts.

The results of this study should be treated with caution, however, because they reflect the perceptions of a small number of participants who work with adolescents, and a small number of adolescents living in disadvantaged communities. Their perceptions are nevertheless valuable, and direct contact with interviewees showed that it is not just the individual adolescent, but the people around them and the places that they are exposed to that should be considered when addressing these problem behaviours. These results do not come as a total surprise; nevertheless it was still valuable to conduct this research as findings confirm anecdotal reports of the impact of contextual influences on adolescent risk behaviour.

The data imply that intrapersonal characteristics may influence adolescents' propensity to engage in substance use and delinquent-type behaviours. These included certain personality traits (impulsivity and rebelliousness), and learned helplessness. This matches what previous studies have found on individual risk factors for these behaviours (Cleveland et al., 2010; Monahan et al., 2011; Van der Merwe et al., 2012). Demographic factors were also discussed, with adolescents who have reached high-school age being viewed as especially vulnerable to starting to engage in problem behaviours. This was in line with previous studies (Ennett et al., 2006; Jackson & Schulenberg, 2013), where findings indicated that substance use is significantly associated to the transition to high school (Palen et al., 2006). In the current study, an increased risk during high school was seen to be related to the interaction between the systems. It is important that future interventions that are implemented

in this context therefore target both male and female adolescents who are in high school, but also make provision for addressing other interacting risk factors.

The findings around gender were in agreement with South African studies that found males were more likely to engage in substance use (Brook et al., 2006; Flisher, Mathews, Mukoma, & Lombard, 2006; Morojele et al., 2013), and be delinquent (Morojele et al., 2013; Van der Merwe et al., 2012) but also suggested that in this context, girls also engaged in this behaviour. For example, Morojele et al. (2013) found that the gap between male and female adolescent alcohol use in the Western Cape is decreasing.

The interviewees also provided information that suggested that other contexts that the adolescents interacted in, may influence individual characteristics that put the adolescent at risk of engaging in these problems. It seems that interactions within the family, peer, school and neighbourhood contexts influenced adolescent problem behaviour. In terms of interrelationships in the microsystem (family, peers, school), the results suggest that there was apparent normalisation as well as modelling of substance use and delinquent-type behaviours by peers and family members. This is keeping with the findings of previous studies, which have found that adolescents whose parents used alcohol were more likely to engage in alcohol use (Brenner et al., 2011; Ennett et al., 2006). In addition, adolescents who saw their parents being violent were also prone to using violence with others, especially in developing countries with high violence rates such as Columbia (Brook, Brook, & Whiteman, 2007) and South Africa (Brook et al., 2011). Previous research also found that if their peers engaged in problem behaviours, adolescents were more likely to engage in these behaviours (Brook et al., 2007; Chuang et al., 2005). However, the findings of the current study differed from Ennet's (2006) findings that indicated that peer modelling of alcohol use was negatively related to adolescent alcohol use in an ecological model.

In terms of parenting, participants viewed family discipline and monitoring strategies, or the lack thereof, as influential on adolescent problem behaviours. This is in agreement with previous literature, where low rates of parent monitoring have been associated with violence (Brendgen, Vitaro, Tremblay, & Lavoie, 2001), and substance use in adolescence (Wagner et al., 2010) including in South Africa (Brook et al., 2006). High levels of stress and conflict within the family were also described in the current study as negative influences on adolescents' substance use and delinquent-type behaviour. Wagner et al. (2010) similarly found low family functioning to be associated with substance use in Latino adolescents. Conversely, the findings imply that positive relationships with parents may protect adolescents from substance use and delinquent-type behaviours. Previous research has indicated that adolescents from families with high levels of parental monitoring and supervision (Chuang et al., 2005) and parental support (Brendgen et al., 2001; Wagner et al., 2010) are less likely to engage in problem behaviour.

The findings also suggest that peers may play a socialisation role in adolescents' lives, as participants described problem behaviours being modelled and rewarded, while abstaining from these behaviours were perceived to be associated with negative outcomes. The current study's findings match what has previously been found, namely that that peer socialisation has a significant influence on adolescent substance use (Becker & Curry, 2014; Brenner et al., 2011), including among South African adolescents (Brook et al., 2006). Generally, the finding that peers influence adolescents' behaviour negatively has been confirmed by a number of studies, including those conducted in South Africa (Leoschut & Bonora, 2007) .

Schools were also described as a setting where interpersonal relationships played a role in the engagement of problem behaviours. The data implies that substance use and delinquent-type behaviours occurred regularly on school property in this context. This is in agreement with the findings from previous studies in both developed (Mennis & Mason,

2011) and developing countries, including research conducted in the Western Cape (Leoschut, 2009; Morojele et al., 2013; Reddy et al., 2010). The results also indicate that while disciplinary procedures were in place at the schools in these communities to assist in dealing with problem behaviours, in reality, the picture is complex. If the findings of the current study are replicated with larger, more representative studies, this may have implications for policy recommendations in the Western Cape. Even though various procedures are in place within the Western Cape Education Department to deal with these behaviours in schools (for example, Codes of Conduct and the Learner Discipline and School Management Guide), in reality there are obstacles to fully implementing these. The findings of this study also suggested that schools could serve a protective factor against substance use and delinquent-type behaviour if adolescents engaged in pro-social extra mural activities. This matched previous research that found that a positive school climate was associated with less substance use (Mayberry, Espelage, & Koenig, 2009).

According to participants, the exosystem or broader neighbourhood that these adolescents lived in, was a context where the risk for substance use and delinquent-type behaviours were amplified. Living in a community with high levels of poverty was seen to be coupled with the social ills that accompanied these settings, such as high levels of illegal activity including substance use and gang activity. Previous research has also found that neighbourhoods with high levels of gang activity influence adolescent behaviour in developing countries, such as Columbia (Brook et al., 2007) and South Africa (Brook et al., 2011; Onya et al., 2012).

Participants also noted that because there was a lack of recreational facilities, adolescents were more likely to associate with friends who engaged in problem behaviours and/or gang activity. These findings are similar to a previous study conducted in Cape Town, which found leisure boredom significantly predicted school dropout among adolescents

(Wegner, Flisher, Chikobvu, Lombard, & King, 2008). Another problem in these communities as implied by the data was the fact that both formal and informal venues that sold substances were widely accessible, and substances were available at places that are somewhat more difficult to avoid, such as their own homes, schools and social events with their friends. While not much research has been conducted with adolescents, there have been a few studies that have shown that having more access to alcohol outlets in their neighbourhood puts adolescents at a higher risk of alcohol use (Popova, Giesbrecht, Bekmuradov, & Patra, 2009; Scribner, Cohen, Fisher, & Kaplan, 2000).

The data also implied that the contexts may interact with each other, and increase adolescents' risk for substance use and delinquent-type behaviours. For example, participants discussed the family situation as influencing adolescents' within their school context. This result matches what has previously been found, as adolescents with unsupportive family environments being more likely to have a high-risk school environment (Herrenkohl et al., 2003), or adolescents who experience violence at home may perform badly at school (Van der Merwe et al., 2012). In the current study, one of the major themes that emerged was that gang activity was rife and infiltrated into other aspects of adolescents' lives, such as schools. The data implied that gang activity influenced adolescents at school, as they were more likely to engage in substance use behaviours, and delinquent-type behaviours, including the selling of substances and fights. In the context of the Western Cape where gangsterism is a real social problem (Standing, 2005), this is concerning. In a recent Cape Town study, substance use among adolescents was found to be related to their entry into gangs, as adolescents begin to sell substances for gang members, and then get introduced to a life of crime and violence to meet the demands of the gang (Ward & Bakhuis, 2009). Gang membership has also been found to predict youth violence (Dawes & Van der Merwe, 2004). While the current study could not make such claims, this is clearly an area that warrants further research.

Finally, the participants discussed that peers could influence behaviour within the school. Having peers that engaged in pro-social activities was found to protect adolescents from being exposed to substance use and delinquent-type behaviour. Previous research has also indicated that peers can be influential in adolescents' schools, and can actually enhance the effects of schoolmates' modelling of alcohol use (Ennett et al., 2006). The current study suggests that peers can also have a positive effect on adolescent's behaviours, and future research could also look at this in more detail.

Limitations of the Current Study

The main limitation of the current study was that the information gathered was focused solely on service providers' and adolescent participants' perspectives on substance use and delinquent-type behaviour. Since these are somewhat subjective, the information may be biased. The strength of the study, namely that it tests ecological validity in specific communities in one country, can also be viewed as a limitation. It is unlikely that these contextual factors will be relevant in other settings.

Another limitation was that since it was a qualitative study, the ecological model could not be used to quantitatively explain how much of the problem behaviours were due to various systems and the interactions between them, but rather provided some evidence of the important of the context that make up an adolescent's environment.

A further limitation was that the parents of adolescents in the communities were not interviewed; and they might have a different perspective on risk factors for substance use than service providers and adolescents. Their views on adolescent problem behaviours and factors that would assist in their involvement in programmes to assist adolescents would be valuable to obtain in future studies. Despite these limitations, the study objective was reached, namely that it confirmed that the prevailing knowledge on risks for adolescent substance use and delinquent type behaviours is not without foundation.

Implications for Intervention

Despite these limitations, the results did provide some evidence for how individuals interact with each other and within their context, and therefore some suggestions for delivering an intervention to this target population. First, regarding individual factors, the intervention should target the right age group, which from the study seems to be adolescents of high-school age. This confirms the findings of Chapter 2, which indicated a high prevalence of both substance use and delinquent-type behaviours among adolescents in the Western Cape. Previous literature has also recommended that brief interventions be administered to adolescents who are in high school (Winters et al., 2007).

Since the data implies that adolescents' interpersonal relationships influenced their behaviours, the content of a brief intervention should also make provision to include these relationships. Parents, peers and school factors were mentioned extensively in the results section of the current study. Future interventions in this context may also consider the involvement of parents in interventions that aim to reduce adolescent substance use and delinquent-type behaviour, since the findings of this study indicate that improving monitoring, supervision and communication skills may be beneficial, as these skills could be protective against problem behaviours. Peer pressure was also discussed in the results, and future interventions, as peers played an important role in adolescents' lives and their approval seemed important from the findings of this study. With regards to the school environment, possible recommendations for future interventions from the findings of this study include addressing scenarios of possible risks on school property, so that adolescents can practice how to deal with these risks, as well as including positive aspects of school environments in interventions.

Again, while the scope of the current thesis makes it impossible to address these structural changes in the community, it points to some suggestions in dealing with

microsystem influences, and to a lesser extent, macrosystem influences through the identified brief intervention. This includes refusal techniques and coping skills for adolescents living in these neighbourhoods, as well as identifying the support mechanisms that they can use to do this. The findings of the current study also pointed to the importance of having pro-social leisure activities and it is suggested that future interventions include strategies for providing alternative activities to substance use and delinquent-type behaviour, that are also feasible in this low-resource context.

Teen Intervene (the brief intervention identified in Chapter 5) complies with all these recommendations. It is aimed at adolescents aged 12-19 years old, which is generally high-school-going age, and studies have been conducted with both male and female adolescents (Winters et al., 2006; Winters et al., 2012; Winters & Leitten, 2007). It also contains a number of activities that ask adolescents about their friends and family members, including how to deal with peer pressure and how to utilise social support. In addition, it includes one full intervention session with the parent or guardian. With regards to the engagement of pro-social leisure activities, it contains an exercise which lists activities that adolescents may enjoy doing, as opposed to engaging in problem behaviours (Winters et al., 2006).

In addition, the findings indicated that the exosystem may play a large role in influencing adolescents' problem behaviours. Future studies should concentrate on identifying structural interventions that deals with drivers such as addressing poverty, predominant cultural and social norms around substance use and crime and violence, as well as gang activity, which could be used in conjunction with the current brief intervention.

Conclusion

The current study explored the context that substance-using adolescents live in, to improve future delivery of a programme to this target population. Although this was only done in a limited way, it showed that it is not only individual factors (such as socio-

demographic factors and psychological or behaviour characteristics) that influence problem behaviours, but also the contexts that adolescents are exposed to (home, school, their community and broader cultural aspects), and the people that they have relationships with in these contexts (family, peers, teachers, gang members).

These findings add to our knowledge on the usefulness of establishing the ecological validity of brief interventions. Service providers could incorporate some of these findings when delivering services to adolescents in this setting, such as targeting adolescents of the appropriate age, including parents, peers and school relationships in the intervention, and the provision of skills and tools in how to refuse substances and engage in healthier behaviours. The selected brief intervention, *Teen Intervene* (identified in Chapter 5), meets these criteria. However, the findings also indicated that interventions that address structural drivers of substance use and delinquent-type behaviours may be needed to effectively address these problem behaviours, and future research could address this.

Chapter 7 (Study VI)

Adapting an Evidence-Based Brief Intervention for Adolescent Substance use and Delinquent-Type Behaviour

The previous chapter demonstrated that it is useful to take contextual factors into account before delivering an intervention to substance-using adolescents. This chapter discusses the process of modifying *Teen Intervene*, to ensure that it addresses both substance use and delinquent-type behaviour, and fits the South African context. In addition, it provides recommendations on how best to implement *Teen Intervene* in this context. It addresses Study VI's aim (see Chapter 1). The modification of the intervention is informed by the Consolidated Framework for Implementation Research (CFIR) (Dausey, Pincus, & Herrell, 2009). This is a comprehensive framework that is useful to identify contextual influences that may explain the differences in how interventions are implemented in different settings.

Adapting Interventions to Different Contexts

Evidence-based interventions are becoming more widely used because they can help ensure that programmes are effective when they are implemented with fidelity (Ingraham & Oka, 2006). However, when planning to use an evidence-based programme, the context, setting or population will most likely differ from the original setting that it was tested in (Stirman, Miller, Toder, & Calloway, 2013). Some minor adaptations may be needed to take these differences in population or setting into account. If necessary, content modifications are made to the selected intervention. These focus on the actual delivery of intervention content and materials such as refining the intervention, or adding or removing elements (Stirman et al., 2013).

Tailoring an intervention to the local context is important as interventions should "fit" the local community (Barrera, Castro, Strycker, & Toobert, 2013; Bernal, Jiménez-Chafey, & Domenech Rodríguez, 2009; Castro, Barrera, & Martinez, 2004) and target population

(Miranda et al., 2005). Different communities have different belief systems, ethnic backgrounds and socio-economic status which can affect the implementation of and responses to interventions. For example, previous research has highlighted that different ethnic groups have different substance use prevalence rates and risk factors for substance use, which may need to be considered when planning for an intervention (Resnicow, Soler, Braithwaite, Ahluwalia, & Butler, 2000).

If an intervention was developed in a context different to the one that it is delivered in, there may be a mismatch between the intervention and the target audience in terms of the characteristics of clients, the community in which the BI will be delivered, and the staff and organisation that will provide the BI. Therefore some changes to interventions may be necessary to ensure fit between the intervention, audience and context. These modifications usually involve two processes: modifying the content of the intervention, and modifying the form of intervention delivery which relates to who delivers the programme, how it is delivered and where it is delivered (Castro et al., 2004). In this study, modification of the intervention refers to more superficial processes that involve ensuring that the intervention fits in with the culture, experience and behavioural patterns of the target population (Resnicow, 2000), while ensuring fidelity by keeping the core components (Fixsen, 2005) of this evidence-based intervention; thereby ensuring fidelity.

The Tension between Adaptation and Fidelity

Fidelity speaks to how well the implementation of an intervention matches or fits the original programme's specifications (Backer, 2001). During the adaptation of an intervention, it is important to have considered fidelity. While it is clearly important to have a culturally informed programme that is acceptable to the local community and encourages their participation, it still needs to be congruent with the original intervention otherwise assertions cannot be made that it is evidence-based (Backer, 2001; Castro, Barrera, &

Holleran Steiker, 2010; Castro et al., 2004). Guidelines have been put forward to help ensure programme fidelity during the process of cultural adaptation.

Once an evidence-based intervention has been identified, Backer (2001) suggests that the following steps are taken before the intervention is adapted. First, the theoretical underpinnings of the intervention should be clear. It is also essential to know which are the main "ingredients" or components of the programme that are essential to its success, and which components can be modified for a specific context. Any concerns around fidelity/adaptation should be assessed in order to determine what adaptations may be necessary.

The next step is to consult with the programme developer in order to ensure the core components of the programme have been retained during the adaptation process. Core components are the elements of the intervention that are supposed to, or have been shown to, impact on the outcomes associated with the intervention (Blase & Fixsen, 2013), which in this case are substance use and delinquent-type behaviour outcomes. For *Teen Intervene,* the key components are that the delivery of the intervention is adhered to (development of rapport between client and counsellor, preparation by counsellor, use of motivational interviewing), the content of the sessions are adhered to (specific exercises are compulsory, as well as setting goals for substance use) and the quality and skills of the counsellor are indicative that they have general counselling skills (Winters et al., 2006).

Following this, a consultation should occur with the organisation and and/or community in which the implementation will take place (Backer, 2001). This step is instrumental to get buy in from at-risk adolescents themselves as well as important stakeholders in their communities.

The final step is to develop an overall implementation plan based on these inputs, which will most likely include a strategy to measure fidelity and ensure that this balance is

maintained (Backer, 2001). This is ensured in *the Teen Intervene* (TI) programme by intervention sessions being audio-taped and session adherence checklists being completed by research assistants who listen to these tapes, as well as counsellors having regular supervision meetings (Winters et al., 2012).

While the core components of the selected intervention can be maintained using the above-mentioned strategies, the goal of the current study is to identify a BI that addresses substance use and delinquent-type behaviour outcomes. While TI addresses substance use it does not address delinquent-type behaviour, which is an important outcome of the current study. There are therefore certain modifications that may need to be made to the original TI, to ensure that it fits the context of disadvantaged communities in Cape Town and also addresses delinquent-type behaviours.

The CFIR is a comprehensive theoretical framework that can be used to guide these changes to the intervention (Damschroder et al., 2009). The various domains and constructs of this framework are described below.

Theoretical Framework: CFIR

The CFIR is an organising framework, and consists of a comprehensive, practical set of constructs from evidence-based theories that attempt to explain what is necessary for interventions to succeed in different contexts. According to this framework, interventions need to be assessed as to whether they will translate into intended, positive outcomes in various, real world settings (Damschroder et al., 2009; Damschroder & Hagedorn, 2011). The CFIR has been suggested as a framework to use for the implementation of substance use interventions in other studies (Damschroder & Hagedorn, 2011; Sorsdahl et al., 2012). While the model originated in the USA, it has also been used in England (Ilott, Gerrish, Booth, & Field, 2013) and Cape Town (Sorsdahl et al., 2012). Although the population and setting were different (adults in a primary health care setting) to the current study, the Cape Town

study successfully utilised the CFIR to explain service providers' perceptions towards screening and brief interventions (Sorsdahl et al., 2012).

The CFIR identifies five domains that may influence the adaptation of interventions. Each of these domains consists of a number of constructs that may be relevant and important to consider when adapting an intervention. The first domain refers to the actual intervention that will be delivered, and assesses if any changes need to be made to the intervention in a different setting. In the current study, this setting is disadvantaged communities in Cape Town. This refers to the qualities of the intervention in terms of how it has been developed, and if it is evidence-based. It also considers if it is possible to modify the intervention, and if there will be any difficulties in implementing it, such as cost of the programme. In terms of intervention materials, the design and package of the intervention is also important here (Damschroder et al., 2009; Damschroder & Hagedorn, 2011).

The second domain is the outer setting, which talks to where the intervention will take place. This refers to the economic, political and social context of the organisation that plans to deliver the intervention. The outer setting can influence implementation, as it includes the needs of patients and available resources, as well as policies that exist in the external context (Damschroder et al., 2009; Damschroder & Hagedorn, 2011).

Characteristics of the inner setting, the next domain, describe the organisation that will deliver the intervention. The inner setting is perceived as a complex domain because it refers to characteristics of the organisation that will deliver the intervention, and each organisation may be different. These include the structure of the organisation, as well as networks and communication within the organisation. It also refers to the "implementation climate", which indicates how ready and capable an organisation is to deliver an intervention (Damschroder et al., 2009; Damschroder & Hagedorn, 2011).

The fourth domain refers to the characteristics of the service providers or counsellors who deliver the intervention. This includes the interplay between the organisation and the individuals that work in it. The characteristics of the individual who is involved in intervention delivery may influence change within the organisation, as well as the intervention's target population. Constructs include the knowledge and beliefs that these individuals have around the intervention, as well as other personal attributes of individuals such as personal traits and skills (Damschroder et al., 2009; Damschroder & Hagedorn, 2011) which may positively or negatively influence how the intervention is delivered.

The fifth and final domain has to do with how the intervention will be implemented in a real life setting. Firstly, the implementation of interventions should be planned and designed. The next step is to engage the target population and involve them in the intervention through marketing, education, role modelling or training activities. The intervention will then be executed in the relevant setting. Finally, evaluation activities should take place to obtain feedback about the progress and quality of the intervention (Damschroder et al., 2009; Damschroder & Hagedorn, 2011).

Aim of the Study

These domains of the CFIR guided the modification of the selected intervention for use with substance-using adolescents with other problem behaviours in Cape Town, which was the aim for the current study. A second aim was to provide recommendations on how to best implement the intervention in the current setting, using the selected framework. This speaks to Study VI's aim (refer to Chapter 1).

Method

The qualitative methods for this investigation followed those described in Chapter 6 in terms of the rationale for the study design, sample recruitment and selection and the

procedures followed. This section will therefore only highlight differences between Chapter 6 and the current study.

The same sample of service providers and adolescents were selected to help guide the adaptation of the selected brief intervention. At the end of the first focus group, adolescent participants were asked to participate in a second focus group in their public libraries to discuss the actual intervention, scheduled for one week later. For those few participants who could not attend their scheduled focus group, they were accommodated into another focus group. To ensure optimal participation, participants were provided with a slip of paper containing the date and time of their next focus group, and were telephoned the day before their allocated focus group to remind them. Thirty adolescents participated in five focus groups.

Participants were asked a number of open-ended questions about the delivery of intervention services in general, as well as about the proposed intervention (*Teen Intervene*). The semi-structured key informant interview schedule contained questions that asked service providers about their perceptions of brief interventions, and recommendations for how to work with school-going adolescents who used substances and had other problem behaviours. Questions were also asked about how best to deliver the intervention and promote adolescent participation (see Appendix O). The section of the key informant interview that focused on the content of the intervention and recommendations for implementation lasted between thirty and forty-five minutes.

Participants in the focus group were asked to comment on the proposed intervention, and they were provided with an intervention booklet that was designed to assist them with this task. It consisted of 27 pages comprising information on substance use and problem-behaviours, as well as skills-based exercises to match session 1 and session 2 of the original *Teen Intervene* intervention. The content of this booklet relied heavily on the original *Teen*

Intervene manual (Winters et al., 2006). Participants were asked to suggest adaptations to the language and examples to improve the relevance and appropriateness of the intervention materials for a South African audience. They were also asked to comment on their perceptions of the value and usefulness of the intervention. Participants were also asked about the length and delivery of the intervention as well as how to promote recruitment of adolescents into intervention services (see Appendix P for focus group schedule). There was also a practical aspect to this focus group, with participants being shown the programme t-shirt, logo and planned programme name and asked to comment on these.

Once they arrived at the focus group venue, the adolescents were provided with something to eat and drink. Rescreening and the provision of assent was unnecessary, as all participants had completed this in the first focus group. They had also already returned their signed parental consent form in the first focus group. Participants were also reminded not to discuss anything that was raised in the group with anyone else. Five focus groups were conducted with four to six participants in each group (total n =30). Each focus group lasted approximately an hour. Participants were provided with a R50 grocery voucher for their participation in the focus groups.

Both the key informant and focus group interviews were audio-recorded and transcribed. The investigator removed all identifying information from all of the transcripts. In addition, any documents that contained identifying information (participants' names and contact details) were stored separately to other information. Data were stored securely, following the procedures described in previous chapters (refer to Chapters 3, 4 and 6).

Once again, adolescent participants in this study were told that if they felt that they had any problems that they could speak to the investigator separately following the focus group, or alternatively call the project phone. However, there were no such incidents.

The investigator and research assistant separately coded the transcripts using the OpenCode software programme (ICT Services and System Development and Division of Epidemiology and Global Health, 2013). The CFIR framework was used to code the data into the five domains and underlying constructs. There were no major discrepancies between the research and research assistant's coding results. The same process was followed as with Chapter 6. Following data analysis, the researcher used the results to make minor modifications (presented in the results section) to the intervention manual and intervention booklet so that it is ready to be tested in this context. These were then sent to the programme developer of *Teen Intervene,* and these materials were discussed to ensure that after the modifications the intervention still adhered to TI's theoretical concepts and contained the core elements of the original intervention. Themes that were common across focus groups and interviews were considered in the process of adaptation.

Results

The results are organised according to the five CFIR domains that emerged from the interviews and focus groups. The following section describes the service providers and adolescents' recommendations for implementing this intervention in this context, as well as modifications that were made to the intervention content based on their suggestions (Table 19). The findings addressed issues that were somewhat expected when modifying an intervention according to the CFIR framework, but provided a local expression of these concerns.

Table 14. *Recommendations and Adaptations Made to Intervention by CFIR Domain*

Type of Adaptation/Suggestion	Explanation	Example
Language Modification	A number of changes were made with regards to the language used in the intervention, including translation	1. Consent form translated to Afrikaans 2. Use of colloquial Afrikaans terms (e.g. "babbelas" for hangover, "dagga" for cannabis) 3. Identification of certain terms to make them more South Africa (e.g. "match") 4. Simplification of terms such as "pros and cons", and "triggers"
Changes to intervention visuals	Design logo modified in terms of size and colour	1. The size of the logo was enlarged 2. Additional colours were added to the intervention booklet
Addition	Another exercise as well as a resource guide were added to the intervention booklet	1. Examples of delinquent-type behaviours were added (e.g. how to problem solve peer pressure to steal or act truant from school) 2. Resource guide added to intervention for substance use and delinquent-type behaviours
Repetition	Components of specific activities on substance use were repeated to include delinquent-type behaviours	1. Add options for delinquent-type behaviours for exercises on pros and cons, readiness to change and goal setting

Outer Setting

Participants discussed various aspects of the social context that could come into play when planning to deliver this intervention. These included their knowledge of organisations that can identify and provide services to adolescents with substance use and other problems, as well as barriers to receiving these.

Screening for substance use. While substances seem to be widely available and accessible to adolescents in disadvantaged communities in Cape Town (based on results of Chapter 6), participants mentioned that that adolescents who use substances are not identified in a systematic way. Adolescent participants mentioned that often the only way that they knew to identify adolescents as having a substance use problem was through their erratic behaviours. Examples were given of substance-using peers continuously laughing and "acting nerdy" and "stupid". Two of the key stakeholders mentioned that often substance users are identified when consequences of substance use become apparent, such as engagement in delinquent-type behaviours or poor academic performance:

> So I think normally what we see here is children are identified by, from the school system whether children is displaying behavioural problems. Mostly you know absence from school and you know what we also see is a sudden drop in terms of their school performance. (Service Provider 4, Male)

Both adolescent participants and service providers agreed that substance use often goes undetected by authority figures, and that children who may benefit from further assessment and the brief intervention can be missed. Adolescents reported that substance-users will specifically plan their behaviours so that they do not get caught by parents or school staff:

> Female Participant: Because the teacher wouldn't find out that they are 'high', they did use drugs before they came to school.
>
> Interviewer: Okay, so the teacher doesn't always know?
>
> Male Participant: Yes.

Service providers also reported that they were not aware of available screening tools to detect adolescents who are beginning to use drugs. They did discuss the value of systematic screening to identify all adolescents that would potentially benefit from an intervention, as opposed to only the ones that present with obvious problems. It would also assist with ensuring that problem behaviours are objectively assessed and not based on the perceptions of the adolescent or other adults around them. The following quote is indicative of how problematic substance use is inconsistently defined by different service providers:

> I think, hmm, what probably happens in most cases, it's one of two things: they are either identified because of their behavioural problem.....or because of their lack of academic progress…Hmm, but I'm not sure that there's, there's actually a screening mechanism as such in place. Yes; and also because it would also perhaps show the severity of, of the situation. Everyone is going to have different perceptions, some is going to think, "I've had three drinks this month so I've got an alcohol problem" - the other one is going to say, "well you know I had three drinks since 2 o'clock so I've got an alcohol problem." (Service Provider 2, Male)

Existing interventions for substance use and delinquent-type behaviours. Service providers mentioned that existing intervention services that are available to adolescents with these problem behaviours are not evidence-based. It is therefore not known whether these interventions are effective:

> I think is, hmm, yeah, it's got to be what works and you know outside of our patient setting for substance abuse - that can be a tricky one - I just don't think

there's enough evidence out there, enough research being done and, or yeah, and there isn't enough knowledge base. (Service Provider 3, Female)

Service providers also reported that that there is a lack of integrated services available to address substance use and delinquency. They discussed that there are separate programmes for substance use problems and delinquent-type behaviour. Some attempts have been made to make "links" between these two behaviours in each service stream, but for the most part they felt that these services were not co-ordinated and existed separately. This means that adolescents need to get multiple services from different points of care to in order to address their needs comprehensively. In the current context where both adolescents and service providers reported that services are not always accessible, this can be problematic:

Participant: It's not just, it's not just education that must play, that must come on board, its Social Development; it's Health, it's everybody…multi-disciplinary...

Interviewer: ...approach.

Participant: So that's the problem, hmm, often it's done in isolation. (Service Provider 2, Male)

Adolescent participants in almost all of the focus groups were much less aware of existing treatments for integrated substance use and problem behaviours. They mentioned "anger management" as a common service provided for delinquent-type behaviours. They also reported that they did not know of any or that there was "not much" available services in and around their communities for adolescents who engage in risky behaviours. In one focus group, specialised substance abuse treatment services were even perceived as harmful by the adolescents:

> Female Participant 1: And even when the kids get sent away…when they come back they're just...
>
> Female Participant 2: They're worse.
>
> Male Participant 3: Uhh, they're worse.
>
> Interviewer: Ok, and how do you mean worse?
>
> Female Participant 1: Like, before they just maybe used alcohol then they come back it's, like, in dagga. When they go back, they come back again it's like something more serious.

Based on this feedback, an extra page of resources for a range of reputable services that are within or close to the selected communities was added to the back of the intervention booklet (Table 19).

Barriers to accessing existing services. Apart from the limited availability of services, both service providers and adolescent interviewees mentioned that barriers within the adolescent themselves can make access to these services difficult. On an individual level, the adolescents' motivation to change their problem behaviours was described as pivotal as to whether they would utilise services for these behaviours, and for the outcome of these services. Both adolescents and service providers felt that those who are not ready to make changes to their behaviours would not succeed with an intervention:

> Because some of them would, like, nah, I don't want to change, I want to stay the same, like, if I change I'm going to lose my friends. (Female focus group participant)

> They will be shouting and swearing, they might get physical with the teacher, and even if they called into of incredibly hostile. I suppose you can boil it down to that, these children can become very hostile, and they blame everybody else. They blame the teachers, they blame the system, they blame the principal, they blame the way they treated, they say it was unfair, it was not their fault. They've been picked on, they've been/they're being victimised, you know they not taking any responsibility for their own actions and their own responses and reactions. (Service Provider 3, Female)

Second, two service providers reported that the issue of stigma can prevent individuals from obtaining the services that they need for fear of being mistreated by community members. Adolescents did not mention stigma as a barrier against services. One service provider also believed that this stigma is decreasing, especially for female adolescents who want to receive treatment:

> We, we, we really don't - what I think what it is, I think one could say to some extent is that there is some barriers that is falling away, that I think the stigma of females needing help is becoming lesser, and I think we are very glad about that because I think that's a very unfair barrier. (Service Provider 4, Male)

Inner Settings

Service providers discussed a number of organisational barriers that may hamper service provision and uptake. The first of these had to do with resources. They reported that there is limited capacity to deliver new interventions because of the number of existing staff members, and a lack of funding to expand staff to deliver additional services. This could impact on the delivery of the intervention in the current context.

In addition, service providers mentioned the organisation's structure as imperative to whether the implementation of an intervention to providing interventions to adolescents is successful. They noted that organisations as a whole also need to be ready to implement this type of service. They discussed the staff members as needing to be open and receptive to a brief intervention otherwise implementing it is a "waste of time". The recommendation from these findings is that for the delivery of the adapted *Teen Intervene*, organisations are selected that are receptive to a brief intervention and that there is a degree of organisational readiness:

> …because the school never set the structures effectively for the programme to happen and so, so we had to remove the programme from the school, it's because they didn't value the programme. (Service Provider 14, Male)

Characteristics of Individuals Providing Services to Adolescents

Participants provided suggestions about individuals that provide services for problem behaviours to adolescents in three key areas: qualifications, skills and demographics. Three service providers reported that having a psychological background or qualification was important for people who provide counselling and interventions for substance-using adolescents. Counselling skills were seen by the majority of service providers as useful (or essential) in order to develop rapport with adolescents, have the appropriate listening skills and be able to empathise and understand their problems as well as be genuine:

> You build the trust, you build a relationship and the other stuff will follow. The respect will follow, and all of that if you build up a sound solid good relationship. (Service Provider 11, Male)

While adolescent participants did not specifically mention the importance of having any qualifications, the majority did discuss similar characteristics, such as being "friendly" and a "good listener". They also spoke about the importance of adhering to ethical principles of being non-judgemental and retaining confidentiality, in order for adolescents to disclose their substance use or delinquent-type behaviour:

> Female Participant 1: And how do they know they can trust that…person.
>
> Female Participant 2: Not scared of being judged.
>
> Female Participant 3: (Inaudible)…tell, or judge them.

Both service provider and adolescent participants also mentioned that individuals who provide the interventions should have a broad understanding of adolescents' substance use problems that addressed the physical and other effects that various drugs can have. Adolescents especially reported that they should be able to assist them with information such as "teaching them what drugs do to the body" and where to go for assistance, while service providers also discussed the importance of understanding other aspects of substance use:

> So working with an adolescent especially you need to know what's happening in that body apart from the drugs, what is happening there in any case that could be difficult to deal with; so you need to understand how the emotional and social development of that child at that stage, how he or she negotiates his own existence for the therapist to know that a child that-that have encountered drugs or has been, his using drugs as an adolescent you need to keep in mind; what motivates young people to step into that kind of risky behaviour. So you need to make sense of that and kind of appreciate that. (Service Provider 14, Male)

In addition, some of the participants discussed the need for counsellors who provide brief interventions to be able to relate to the "modern teen". Both service providers and adolescent participants recommended that interventionists must be "savvy" and able to "size up" adolescents otherwise they "will get played". It also was seen as imperative for adolescents with problem behaviours to respect their interventionist. Furthermore, this was linked to having experience in working with young people, but also understanding professional boundaries:

> There needs to be professional boundaries, yes, you, you are going to interact with the child but the child needs to know that you are here for business. I'm not here to be your friend! Yes I'm here to have a relationship with you…in terms of how I will be able to speak into your life and guide you. Because many times you find that, and I'm not knocking it, our young people are extremely clever, they not stupid people… (Service Provider 7, Male)

> Somebody who has experience... somebody who went through it. Then I talk to him and then he can give me advice...what to do. (Male focus group member)

There was little consensus on whether counsellors should conform to particular demographic characteristics. Some participants felt that they should be young in order to relate to adolescents while other participants mentioned that age was not as important as experience with working with adolescents. The minority of participants mentioned that the gender of those providing the intervention is important. Two of the adolescent participants felt that they should be women as they "listen better", while one service provider suggested that women can become like "mothers" to adolescents with problem behaviours. Another

service provider recommended gender matching, as he believes that men would be able to deal better with issues of discipline among male adolescents:

> I'm just thinking you know of the experience that I've seen in the youth centres that very often those sort of adolescent boys didn't respond well to the female educators in that they tried to manipulate them as much as possible.....and, and would try things, verbal abuse and to see what response they get whereas they maybe wouldn't try it... (Service Provider 2, Male)

Finally, some adolescents suggested that counsellors should originate from and live in their communities, so that they can also act as role models. They felt that if they knew of them, it would be easier to trust them. However, others reported that members of the community often had problems maintaining confidentiality, and therefore recommended that interventionists were unknown to them:

> Female Participant 1: …..because I don't want to know them and they mustn't know me
>
> Interviewer: Okay. I'm saying that maybe links to what you said, it's private
>
> Interviewer: Why would you say No?
>
> Female Participant 1: Because they are telling other people going around me what we are talking about.

Characteristics of the Actual Intervention

Adolescents proposed a number of suggestions on how to make the intervention more relevant for their context. These included changes related to language, suggestions for activities on delinquent-type behaviour and the intervention booklet and logo.

Adaptability. Adolescents that took part in the focus groups provided several recommendations of the degree to which *Teen Intervene* could be adapted to meet their needs (Table 19). Certain words were changed in order for them to be relevant for the South African context, such as changing the term "game" to "match". They also recommended that the language used in the original intervention be simplified in a few of the exercises by changing certain words or adding an explanation for words and phrases such as "trigger", "pros and cons":

> Interviewer: So like socialisation means you use drugs or do the things that your friends are doing to help you kind of like feel more comfortable around people. So what do you think about the word socialisation? Do you think…
>
> Female Participant: It's too hard.
>
> Interviewer: It's too hard?
>
> Male Participant: Yeah, change the name.

One adolescent participant spoke about including Afrikaans terminology because the majority of adolescents in the targeted communities spoke Afrikaans as their first language:

> What about Afrikaans? Most like you, you put it in English then you make a line then Afrikaans. Then you will understand it. Half of the children there by our side is Afrikaans here… (Female focus group participant)

Based on this feedback the parental consent (Appendix Q) and assent forms (Appendix R) described earlier were translated into Afrikaans. It was viewed as unnecessary to translate the entire intervention booklet into Afrikaans, as the interventionist will be able to

gather whether the adolescent can understand the context of the intervention during implementation. However, the majority of adolescents suggested certain Afrikaans colloquial terms be added to the intervention exercises, such as "babbelas" in addition to the word "hangover", and adding the word "dagga" (cannabis) to activities.

In addition, the adolescents made recommendations for how delinquent-type behaviours could be added to the intervention. They suggested the inclusions of examples in exercises that spoke to stealing and truancy from school, or "jumping the fence", as well as discussing the advantages of stopping these problem behaviours (see Table 19).

Design quality and packaging. While service providers reported that they approved of the idea of an intervention booklet in principle, only adolescents in the focus group were shown and asked to comment on the handbook (Appendix S) that was developed from the *Teen Intervene* manual (Appendix T). The adolescent participants reported that they liked the idea of having a booklet to take home because they could refer back to the information received and exercises that they completed in the intervention, and use this to complete exercises at home. They also felt that they would not lose it between the two intervention sessions.

In terms of the draft logo consisting of two adolescents dancing that was on both the project t-shirt and handbook, participants reported that it reminded them of "hip hop" dancing which was perceived to be "kwaai" (an Afrikaans slang term for popular), "cool" and attractive. One suggestion was the addition of colour to the black and white logo, and adolescents seemed to favour "bright colours", especially red. Another recommendation was to enlarge the size of the logo on the t-shirts. Finally, the participants were asked questions about the name of the adapted intervention, and its acronym: *RAD-PAL* (Reducing Adolescent Drug Use and Problem Behaviour in Adolescent Learners). They verified that the

term “rad” is still utilised by adolescents, but there was some debate about calling it a project or a programme, as project was reminiscent of school activities:

> It almost sounds like it, it’s in school…it would be better if it was a programme. (Female focus group participant)

Based on this feedback, the background of the logo was made more colourful. The text was changed to red on the first page of the intervention booklet. The logo was also enlarged (see Appendix S).

Process of Implementing the Intervention

The next set of results refers to the content that both service providers and adolescent participants spent the majority of time discussing. This can be divided into two sections, the planning of and the execution of the services.

Planning the implementation of the proposed intervention. When planning to introduce an intervention in a community, one of the key factors to consider is to ensure adequate uptake of these services by adolescents. An element of this is accessibility, and service providers mentioned a number of ways to make services readily available to adolescents. They discussed how it would be useful to contact adolescents to remind them of their intervention sessions:

> You know or can they phone you, a cell number or you know and say, “I’m waiting outside, can I come, where are you?” (Service Provider 2, Male)

Service providers also recommended that the intervention services are geographically accessible to the target adolescents. They suggested that potential participants should be recruited from community spaces, and intervention sessions should also be held in the community. In addition, they recommended the provision of transport if adolescents are

unable to get to intervention venues. Adolescents in the focus groups also agreed that recruiting and holding services in easily accessible community spaces would be beneficial.

Engaging adolescents in the proposed intervention. Social marketing was suggested as a tool to improve both the awareness of the proposed intervention, as well as retain adolescents in the intervention. The service provider participants suggested utilisation of multimedia tools and existing technology such as "social networks" and text messages as appointment reminders. They felt that this would improve the intervention's appeal to young people:

> …break them down, you just need to somebody that they can connect to. One of the things that this generation speaks into very wonderfully is technology and I think in this programme of yours to see how perhaps you can incorporate technology. In social networking a colleague of mine has been discussing how she wants to use Mixit as a medium to get information to young people. (Service Provider 14, Male)

Adolescent focus group participants did not mention multimedia particularly, but rather more basic forms of media, such placing eye-catching posters in community spaces where adolescents frequent, such as "game shops", "malls" and "on the streets":

> Female Participant 1: Put posters up.
>
> Interviewer: Posters. What would be on the posters?
>
> Male Participant: Numbers.
>
> Interviewer: Numbers, like phone numbers? Ok.
>
> Female Participant 1: A picture.

Interviewer: Picture. Mhmm, picture. Black and white or colour?

Male Participant: Colour.

Female Participant 2: Uhm, information about what the programme is going about.

Participants felt that another way to make intervention services appealing to adolescents is to provide simple refreshments and incentives. With regards to incentives, service providers spoke about contingency management with adolescents, namely that they get rewarded for participation in and completion of the programme. Types of incentives suggested by both service providers and adolescent participants were vouchers for supermarkets, clothing stores and cellular telephone airtime. They also suggested that upon completion of the intervention, a certificate is provided to adolescents, to give them a sense of accomplishment and "achievement".

That certificate, or you know it's really something that they value, that they can really…You know that is, they are very proud of; it's really proof to their parents that they have achieved that. So I think it's important to build something like that into your programme. I know that the Matrix programme have, they really try hard and they get all kind of prizes. We, we don't; we at one stage have been able to get from one corporate retailer gift vouchers but we don't get it anymore. And I must be really honest with you, I think we don't really see, when we have/had that and we still just continue with the Graduation, I don't think that is - that, say an incentive in a gift voucher or a burger or say, "you can buy yourself R50's worth of goods" made that big - I think the achievement for themselves how they have developed, how they

> have - and to have that kind of occasion for them to be acknowledged for that. (Service Provider 4, Male)

> Yes [a certificate at the], end of the session. Yeah like so if kids started coming and they came to all the sessions, these sessions…And at the end of the day they get a certificate. (Female focus group participant)

Service providers and adolescents also had a number of recommendations on how to make the proposed intervention appealing to the target population. The content of the intervention was seen as key to the participation of adolescents. Participants reported that "fun", "interesting" and "exciting" programmes were likely to draw more participation. Adolescents equated this with activity-based interventions, and service providers agreed that these are preferable over "didactic" programmes.

Participants also mentioned that work needs to be done to engage adolescents in the proposed intervention, as well as their parents. Obtaining interest in the intervention from parents and recruiting them may also pose a challenge, according to responses provided by participants in Chapter 6. Both service providers and adolescent participants discussed ways in which the programme can be marketed to parents to increase the possibility that they "buy in" to the programme. This included introducing project staff, what the project is about as well as its potential value to adolescents:

> …to come into the school at the beginning of last year and introduce ourselves and make ourselves *known* to teachers, learners and parents. So we still in the process of making ourselves known and also making ourselves known to the wider community. (Service Provider 3, Female)

Adolescents also felt that if the value of the intervention was fully explained to their parents, they would be interested in participating:

> Because, uhm, then the parents would know what, what, what the programme is going all about...and they will get more information about how to deal with, uhm, the situation their children is in. (Male focus group participant)

Delivery of intervention. Participants also had a number of recommendations as to how the actual intervention should be tailored for delivery to adolescents from disadvantaged communities in Cape Town. These were mainly around the practical aspects of how to implement an intervention.

First, participants described the timing and length of the intervention as important. Recommendations on when the intervention should be delivered varied, as some of the adolescent participants suggested it should be delivered on Saturdays, while others felt that this would prove ineffective as adolescents "hang out with friends" and are "drunk" on weekends. However, both adolescent and service providers suggested that Saturday could be an effective time for parent sessions, especially for adults who work during the week. The majority of adolescent participants felt that the intervention could be delivered to adolescent substance users directly after the school day. Service providers did point out that it may be difficult to recruit adolescents into a programme that takes place after school, as if they have left for the day the struggle lay with "getting them back" to attend the intervention services. However, the inability for services to be provided during teaching contact time was acknowledged as a challenge:

> 'Best time' - by that you mean whether it is during school hours or after school hours - I can tell you this and I'm going to base this on the programmes

> I run.... some of programmes, we are very naughty, and we run during school hours, we not allowed to. The Western Cape Education Department doesn't allow us. (Service Provider 6, Male)

The length of the intervention was also discussed, and the majority of adolescents and service providers agreed that sessions should be no longer than 90 minutes in order to hold adolescents' attention. Service providers recommended that sessions "need to be long enough to fit everything in" but also should end leaving adolescents wanting to return to the next session:

> The programme needs to reach its climax and that is where you need to end it; for them to be interested to come back next week. Never allow the programme to fizzle out into [*sighs*] we leaving……because that would make it difficult for them to come back next week. (Service Provider 14, Male)

In terms of the suggested setting of the intervention, schools were recommended by some of the adolescent participants and service providers for convenience, but potential problems were identified with the use of this location, such as lack of resources. One service provider spoke about schools in the community not having the space for an intervention, while one service provider and some adolescents voiced concerns of having a "safe" space on school premises. Adolescents especially were concerned about issues of confidentiality on school property.

Adolescent participants and service providers recommended that private, confidential venues within the adolescents' community that were accessible to them would be the ideal setting. In this context, these were described as public libraries and community venues:

Interviewer: At the library, mhmm.

Female Participant: ...it, it's nice and quiet.

Interviewer: Ok. So, the....the library is nice and quiet.

Female Participant: And it's, it's, there's space...

Finally, there was disagreement around the delivery of the intervention in an individual or group setting. Advantages that were discussed of having group interventions were that it could be more social and adolescents with problem behaviours could relate to each other:

> Just yesterday I told one of the teachers that maybe we should get kids that have similar problems together in a group…have them sit together and talk about what problems they have, and so that they also have this link you know? Hmm, where they can relate to one another...so that if they open up and they can learn from one another; and then depending on the children that really, really don't want to speak in front of other people... (Service Provider 13, Female)

Another service provider suggested that a group-based intervention would be relevant in the targeted context, due to lack of resources:

> It's a…not individual it's a group based thing because you don't have time to work with individuals.... (Service Provider 9, Male)

Other service providers did identify potential problems in groups setting, as did adolescent participants who were not asked about intervention delivery specifically. Service

providers felt that it is more difficult to contain them and there are also group dynamics that come into play:

> Female Participant: Children who, who, uhm, make a lot of noise...
>
> Interviewer: Ok.
>
> Male Participant: ...because they want to be popular...
>
> Interviewer: Yes.
>
> Female Participant: ...they won't respect other children's, uhm...
>
> Interviewer: Ok.
>
> Female Participant: ...they won't respect other children.

Furthermore, service providers spoke of it being easier to pay attention to one adolescent at a time, to really focus on their problem and observe their behaviour on an individual basis which is not always possible in a group setting:

> Because there would be certain persons in a group that would have different reasons or motivations why they are part of that group. So you need to kind of expose that and bring everybody on the same page, this is what we do; this is what I expect of you. So if you don't deal with issues like that and confront it immediately it can kind of run your group into nonsense…that I don't miss out on some of the things that could get lost in the group. (Service Provider 14, Male)

While the opinions of these participants were important, they were inconsistent and it was therefore decided to keep the original format of the proposed intervention as a one-on-one delivery. This is consistent with the findings of the systematic review (refer to Chapter

5), where BIs delivered to individuals were found to be more effective. *Teen Intervene* was developed based on an individual therapy model for adolescents (Winters et al., 2006), therefore this format was retained.

Discussion

Summary of Findings

The current study focused on eliciting recommendations to help guide the modification of an evidence-based intervention for adolescents from communities of lower socio-economic status in Cape Town. The purpose of the study was to gain information from the participants, and then make an informed decision on whether or not their suggestions were feasible. Service providers and adolescents were asked to provide feedback that could be used to help guide the adaptation of the language, visual content and activities of the intervention and tailor the intervention to the local context. Although the suggestions made by participants are well-known in the implementation literature, in a number of instances their comments were very useful as they provided local contextually relevant information that was useful for guiding modifications to the intervention. These recommendations are discussed in further detail below.

The findings were organised around the five domains of the CFIR. In terms of the outer setting, the main findings spoke to the shortcomings in existing services for adolescents who use substances and engage in delinquent-type behaviour. Firstly, the respondents suggested that substance use among adolescents is not always detected early as even if formal screening tools are available, they are not used. While the results do not fully explain why this is the case, it highlights the need to develop systematic processes for screening adolescents for potential substance-use and delinquent-type behaviours in this context. The South African context is not the only one that has difficulties with screening adolescents, as international studies have identified a number of barriers to screening adolescents for

substance use, such as not having enough times to administer the screening (Van Hook et al., 2007), as well as feeling unprepared to administer the tool and deal with positive results (Sterling, Kline-Simon, Wibbelsman, Wong, & Weisner, 2012; Van Hook et al., 2007). Although an appropriate brief screener was identified in Chapter 3 (GAIN-SS) to use in this context, this chapter indicates that it is important not only to provide service providers with psychometrically sound screeners but also to train service providers so that they are able to implement these screening tools.

The respondents also suggested that there was a lack of integrated services for substance use and delinquent-type behaviours in and around the communities where the adolescent participants lived. They felt that there was a lack of services for adolescents in general. In addition, they suggested that societal barriers such as community stigma towards substance use and other problem behaviours in general impacted on the use of services that are available. Stigma has been identified as a factor that affects adolescents seeking assistance for their behaviours in international studies that looked at substance use and other mental health issues, including delinquency (Ballon, Kirst, & Smith, 2004; Hawkins, 2009; Stern, Meredith, Gholson, Gore, & D'Amico, 2007). Studies conducted in Ghana, Uganda, South Africa and Zambia (Kleintjes, Lund, Flisher, & MHaPP Research Programme Consortium, 2010) have also found stigma to be a barrier to adolescent services.

In terms of the inner setting, the main findings referred to the kind of organisation that would be suitable to implement the intervention. Participants mentioned that organisations should be ready to implement an intervention, and also have enough resources to implement these additional services, in terms of finances and time constraints. Previous research has also referred to organisational readiness as influential in whether evidence-based interventions are adopted. A number of factors have been found to influence an organisation's readiness to change, both at the individual level, such as the personal attributes

of the staff and support of management (Gale & Schaffer, 2009; Shea, Jacobs, Esserman, Bruce, & Weiner), as well as broader factors such as the institution's resources, (Gale & Schaffer, 2009) and the organisational climate (Lehman, Greener, & Simpson, 2012). In addition, tools have been developed and widely used to measure organisational readiness to change, such as the Organisational Readiness to Change (ORC) Assessment (Helfrich, Li, Sharp, & Sales, 2009) and the Texas Christian University ORC instrument (Lehman et al., 2012). The ORC seems feasible for use in South Africa, as a previous study used the instrument in substance use treatment centres in South Africa (Bowles, Louw, & Myers, 2011). The findings indicated that directors and staff were generally open to change. However, the ORC would probably need to be adapted to include readiness to change for delinquent-type behaviours in addition to substance use. This could be part of a future pilot study for the RAD-PAL project.

Since the intervention proposed by the current study is a brief intervention (Chapter 5), less resources are necessary to implement this service (Babor et al., 2011) than for other services. However, having an evidence-based intervention that requires fewer resources does not automatically mean that it will be adopted by the relevant organisation for use. The delivery of RAD-PAL would still require some staff time or even the hiring of additional staff members. The Diffusion of Innovation Theory proposes certain recommendations which influence whether a specific intervention is accepted, adopted and used. Rogers (2002) and Dearing (2009) propose that for services to be adopted, they need to be perceived as better than previous intervention options, compatible with organisational values, beliefs, and is relatively easy to use. The researcher would have to spend a sufficient amount of time working with potential organisations to show them that RAD-PAL is effective and compatible with their organisation and the needs of the adolescents that they work with.

Cost-effectiveness is another key issue for considering the adoption of interventions in this context as adolescent health services in Cape Town are scarce (Kleintjes et al., 2010). Therefore it is important not to burden existing services, especially in these communities where limited services are available. Introducing the intervention would also entail emphasising that it may be a viable option in terms of cost, due to its brevity.

In addition to the cost of an intervention, the simplicity of implementing it may also influence the diffusion of this intervention (Rogers, 2002). One suggestion that may be feasible, and speak to both of these issues, is to shift the task of providing mental health care and brief interventions (BIs) in particular away from professional health care providers to lay counsellors. Task shifting involves moving specific tasks from highly qualified health workers to health workers who have less training and qualifications to make more efficient use of the available human resources for health in low- to middle-income countries (WHO, 2008). It has been successfully utilised in South Africa to reduce costs in mental health care by utilising community-based workers and mental health counsellors to deliver services (Myers et al., 2012; Petersen, Lund, Bhana, Flisher, & The Mental Health and Poverty Research Programme Consortium, 2012). In this case, the task to be shifted is the delivery of the brief intervention. Myers et al. (2012) conducted a study in Cape Town and found that task-shifting BIs from mental health professionals to trained and supervised (including fidelity checks) peer counsellors was feasible for a substance use screening and BI aimed at adults. There is no reason to think that this approach would not work with adolescents, provided that continuous training and supervision are provided, as well as building in appropriate fidelity checks. Fortunately, *Teen Intervene* has existing tools to ensure intervention fidelity (Appendix U), which could be adapted to account for the modifications to the programme.

The results also suggested that the characteristics of the staff employed to deliver the intervention may be important for the successful delivery of this intervention. It is useful to consider which skills may be beneficial for a counsellor to possess in this context, such as the ability to establish a therapeutic relationship with substance-using adolescents. This is in line with recommendations made by previous studies, as a good therapeutic relationship between service providers and adolescent clients is seen to positively affect the adolescents' substance use outcomes (Diamond et al., 2006) and other behavioural outcomes. This therapeutic alliance is also at the heart of motivational interviewing principles, as it can facilitate positive behaviour change (Miller & Rollnick, 2002), so it is important that an intervention based on these principles, such as the proposed one, is delivered by the appropriate staff members. There was no consensus with regards to the recommendations of gender and age of service providers matching that of substance-using adolescents. This agrees with previous evidence that found that although matching adolescents with counsellors on demographic characteristics may lead to better treatment retention, this was not essential (Mensinger, Diamond, Kaminer, & Wintersteen, 2006; Wintersteen, Mensinger, & Diamond, 2005).

For the most part, the actual characteristics of the intervention were seen as appropriate by participants. The intervention handbook was viewed favourably by adolescents who participated in this study, who made suggestions and recommendations to deliver it optimally in this context. The findings also showed that it was relatively simple to adapt the intervention to make it more suitable for adolescents in Cape Town. This is in agreement with previous studies, which adapted programmes such as *Healthwise* in the Western Cape (Wegner, Flisher, Caldwell, Vergnani, & Smith, 2008) and *HAPs* (Karnell et al., 2006) for use in Kwazulu-Natal. Although these were aimed at preventing substance use and did not focus on delinquent-type behaviour, these studies nevertheless indicated that substance-use programmes can be modified for use with adolescents in this setting. In

addition, participants also indicated that an integrated intervention that addressed both substance use and delinquent-type behaviour was achievable. The final product of this chapter is a modified, evidence-based brief intervention that addresses both problem behaviours of interest that is ready to pilot in this setting.

In terms of the process of implementing the intervention, a number of recommendations were made as to how to increase the appeal and therefore the uptake of these services. First, participants suggested that social marketing and technology may be a useful way to make interventions more appealing to adolescents. Adolescents are typically the first group to adopt new technologies, and so the use of these tools with adolescents makes sense. Previous studies have also pointed to use of the internet as adolescents are increasingly using and interacting with social networks, so this is a potential platform to use to engage adolescents in interventions (Deady, Kay-lambkin, Thornton, Baker, & Teesson, 2012). The use of technology has also been suggested in other studies, such as the use of mobile technology. For example, a recent systematic review found that tailored text messages promoted interaction with and engagement in services (Webb, Joseph, Yardley, & Michie, 2010). Although these services were for adults, and were for treatment of health behaviours in general, the use of this kind of technology could potentially also be useful for adolescent services, as the respondents in the current study indicated.

Although respondents highlighted the importance of adolescents being intrinsically motivated to change their problem behaviours, they also spoke about external motivators such as providing incentives for progressing within their brief intervention programme. One recommendation was to look at external factors that may promote adolescents' engagement in such services and possibly improve internal motivation at a later stage. There is a body of evidence on the provision of incentives as part of contingency management approaches which have found to assist with engaging adolescents in programmes (Petry et al., 2005). Once

adolescents are receiving services, contingency management approaches have also been found to influence a longer stay in treatment and reduce problem behaviours (Prendergast, Podus, Finney, Greenwell, & Roll, 2006; Stanger & Budney, 2010).

A number of recommendations on how delivery of the intervention can be tailored to the local context and population also emerged from the results. Participants' responses on the setting of where the intervention should be delivered were equivocal about whether the setting should be at a school or at a community venue. While schools were originally thought to be appropriate, further examination of the results indicated that accessible, private venues in the community could be more acceptable to adolescents, and might improve the degree to which they are willing to engage in the programme. Previous research has found community-based brief interventions to be effective in reducing substance use and related problem behaviour (Breslin, Selina, Sdao-Jarvie, Tupker, & Ittig-Deland, 2002; Dembo et al., 2011). In addition, it is crucial to test the implementation of the adapted version of *Teen Intervene* in community-based settings, because the original programme was developed in a school setting (Winters et al., 2012; Winters & Leitten, 2007). A further key recommendation that can be made from the study's findings has to do with group or individual delivery of the implementation.

Participants debated whether the brief intervention would work better in a group or individual setting. While the advantages of both group based intervention and individual based intervention were mentioned in the results, there also seemed to be potential disadvantages of delivering services in a group. In Chapter 5, the meta-analysis of the systematic review of brief interventions found that the one group-based intervention (Bailey et al., 2004) included was not effective in reducing substance use while there was evidence in support of BIs delivered in an individual format. Other studies found that group intervention had no effect on certain substances of use (Battjes et al., 2004; D'Amico et al., 2012) or

criminal involvement (Battjes et al., 2004). Due to the findings of the current and previous studies, and the fact that the original *Teen Intervene* is delivered individually (Winters et al., 2007), this study recommends that the modified intervention is also delivered in an individual format. An interesting area for future research is to compare the efficacy and cost-effectiveness of *Teen Intervene* when delivered in a group- versus an individual format.

Limitations of the Current Study

The participants in this study only consisted of a small group of individuals who lived or worked in the selected communities. While they provided some useful information that was used to guide how the intervention was tailored for the specific context, using a larger sample to comment on the intervention booklet would have been beneficial. The participants were not representative of service providers and adolescents in Cape Town, and the findings represent their perspectives only. The researcher was, however, critical of the findings, and realises that not all of the suggested adaptations should be implemented.

Conclusion

This is one of the first attempts to modify a brief, evidence-based intervention for substance-using adolescents into an intervention that addresses both substance use and delinquent type behaviour in an integrated manner and that is appropriate for adolescents from disadvantaged communities in Cape Town. It has produced an evidence-based, modified brief intervention for substance use and delinquent-type behaviour that is ready to be pilot tested. The CFIR framework was used to identify certain aspects of the intervention that required consideration for adolescents in disadvantaged, Cape Town communities according prior to implementing the intervention, including organisational readiness and resources, staffing issues and how to attract and retain adolescents to the BI. These may be valuable for service providers in the field of substance use in general who are starting their own programmes to consider, such as measuring organisational readiness using an ORC tool.

Future research could also explore the role of social media in recruiting and retaining adolescents to such programmes, as this was discussed as a feasible option in the current study. Finally, a number of suggestions were made as to how this intervention should be delivered in the real-life setting of these communities. While modifications were made to the study, the recommendations for tailoring how it is actually implemented need to be tested, as well as how it will impact on delinquent-type behaviour. It will also need to be checked for fidelity, and that it still retains the core components of *Teen Intervene*. It is therefore suggested that the revised intervention for adolescents who use substances and engage in delinquent-type behaviours, is tested for efficacy on substance use and delinquent type behaviour outcomes among adolescents from poor communities in Cape Town.

Chapter 8

Implications for Adolescents with Problematic Substance Use and Delinquent-Type Behaviours: Integrated Intervention

The primary motivation behind this dissertation was a practical one; namely to propose a comprehensive, evidence-based intervention for a particular target group (adolescents) exhibiting specific problem behaviours (substance use and delinquent-type behaviours) in a certain setting (disadvantaged communities in Cape Town). This was achieved through two steps:

Step 1: Explicating the Relationship between Substance Use and Delinquent-Type Behaviours

Not much is known about the relationship between substance use and delinquent-type behaviours among adolescents in developing countries, and whether this differs from the situation in developed countries. The results of Chapter 2 shed light on the complex nature of the relationship between these behaviours among adolescents living in disadvantaged communities in Cape Town. They indicate that there is a significant association between the two behaviours during early and middle adolescence. This is consistent with Jessor's (1991, 1992) Problem-Based Theory and in agreement with other South African studies that explored this relationship (Pahl et al., 2010; Plüddemman et al., 2010). However, by late adolescence this association was no longer significant, although the reasons for the lack of an association are unclear. This suggests that an integrated intervention to address substance use and delinquent behaviours should target adolescents during early or mid-adolescence.

As this study found that earlier delinquent-type behaviour was predictive of further delinquent behaviour later in adolescence, an early intervention could also assist in prevention of the progression of this behaviour. This is in agreement with previous literature (Mason et al., 2010; Odgers et al., 2008; Piquero et al., 2010). The study findings did not,

however, indicate that substance use is predictive of delinquent-type behaviour. Therefore, ensuring substance-use interventions contain a component on delinquent-type behaviour may assist in preventing the progression of each behaviour individually. However, further research would need to be conducted to determine if an early intervention that addresses both behaviour outcomes will indeed positively impact on these outcomes, as smoking interacted with delinquency.

In summary, this study adds to what is known about when it may be best to target and engage adolescents in behavioural interventions to prevent the progression of substance use and related problem behaviours. It also indicates that the relationship between substance use and delinquent-type behaviours is not always clear-cut.

Step 2: Developing a Complete Screening, Brief Intervention and Referral to Treatment (SBIRT) Package for Substance Use and Delinquent-Type Behaviours.

This step consisted of the development of a short screening instrument, a comprehensive assessment instrument, and an evidence-based brief intervention modified for adolescents living in these communities. This is one of the first studies to complete all of the formative work to set up an intervention that address these two problem behaviours in an integrated manner, and that is relevant and appropriate for adolescents from a low-income, poorly resourced setting.

Such evidence-based screening and brief intervention packages can potentially contribute to existing adolescent mental health systems. If proven efficacious in addressing these dual outcomes, such a SBIRT package could potentially assist in dealing with these problems through their early identification, comprehensive assessment and early intervention.

As part of this developmental process, the components of SBIRT were identified and then a systematic process was followed to modify each component to suit the target population and context. For the screening component, instruments were identified that could

be quickly administered to screen for substance use problems among adolescents in order to identify those who would benefit from an integrated, brief intervention. Chapter 3 identified the PESQ and GAIN-SS as suitable screeners based on their psychometric properties and ease of use, with the GAIN-SS having the added advantage of being able to identify substance use problems as well as delinquent-type behaviours. This short screener is recommended for use with adolescents in South Africa where the use of these screeners is limited.

The utilisation of a short screener such as the GAIN-SS is useful in all contexts where time is limited, because a large number of adolescents can be screened in a short time period (Substance Abuse and Mental Health Services Administration, 2011). The GAIN-SS fits this criterion, because it is administered in only five minutes (Dennis et al., 2008). In addition, while some training and initial supervision will need to be provided to people conducting the screening, quick screening using this instrument can be conducted by a range of individuals that work in organisations with adolescents, not just health professionals (see implication for practice section on task shifting).

For those adolescents that screen positive for these dual problem behaviours, a comprehensive assessment tool that can be used to assess adolescents' service needs in more detail was developed (see Chapter 4). This is the next step in the SBIRT package and involves assessing whether adolescents who screen positive on the GAIN-SS for problem substance use and delinquent-type behaviour will benefit from brief intervention, or will need to be referred to more intensive treatment. Currently, comprehensive assessment tools for these dual problem behaviours are used inconsistently or are not available for adolescents in South Africa. This study therefore adds to what is known on how to put together a comprehensive instrument, as well as modify it for this context. This tool is different to clinical or diagnostic assessments which are used by health professionals with specific skills

and expertise to make a formal diagnosis of a substance use disorder (Winters et al., 2002). The assessment tool developed in this thesis does not aim to replace this kind of diagnostic instrument. Instead, it serves as a guide for helping people working with adolescents decide whether an adolescent should receive the integrated brief intervention (BI) or whether she or he requires more intensive treatment. As such it can complement a formal diagnostic interview, by providing different kinds of information. As this assessment does not require highly skilled personnel to complete it, it is feasible to conduct in most settings that serve adolescents (Babor et al., 2011).

The comprehensive assessment also explores a range of potential risk factors that may influence substance use and delinquent-type behaviours. These include family and peer relationships (which were further explored in Chapter 6). As these are influential on adolescents' engagement in problem behaviours (Amoateng et al., 2006; Barnes et al., 2006; Becker & Curry, 2014; Ennett et al., 2006; Griffin et al., 2000), having an instrument that looks at a broad set of risks may be beneficial for obtaining a better understanding of factors that contribute to the continuation of substance use and delinquent type behaviours. Finding out about these risk factors during the assessment phase may assist when intervening with adolescents, as staff members will have a better idea of the situational factors that need to be addressed in order to reduce or stop their substance use and delinquent-type behaviours.

The crux of this thesis was to identify an evidence-based brief intervention for adolescents who are identified as substance users and potentially delinquent by the screener and assessment tool. This was done via a systematic review in Chapter 5. The findings from this meta-analysis point to the value of intervening with adolescents individually over multiple sessions. In general, intervention studies included in the review focused primarily on addressing substance use and only considered other behavioural outcomes in a small way. While an intervention was identified that was found to be effective for substance use, in its

current format it does not address the issues of substance use and delinquent-type behaviour simultaneously. An intervention that addresses both behaviours in an integrated way could be useful for several reasons. First, instead of intervening with substance use and delinquent-type behaviours separately, both problems can be addressed at the same time. This could be beneficial to the adolescent as having an integrated intervention could save time and resources as adolescents would not have to access two separate sets of services, provided by different service providers. Previous research has shown that integrated mental health services can promote access to services (Patel et al., 2013) and also save costs of the delivery of these services (Kutcher et al., 2009; Patel et al., 2013).

Give the findings in Chapter 5, the next step was to adapt the identified intervention to fit the needs of the specific population. This was done in two ways. First, the intervention was expanded to include a focus on delinquent-type behaviours. Exercises, examples and goal-setting related to delinquent -type behaviours were added to the original intervention that only focused on substance use to create an integrated intervention. Second, as the intervention was developed in a Western setting it was modified to take local contextual factors into account. The findings of Chapter 6 indicated that adolescents are influenced by settings that they have frequent interactions in such as family, peers and schools, which are in turn nested within broader contexts, like their neighbourhood and the broader cultural setting, which fits with the ecological model (Bronfenbrenner, 1994). While it is beyond the scope of this thesis to suggest a structural intervention that can also address the host of structural and environmental risk factors identified in Chapter 6 that contribute to substance use among young people, future research could look at how an intervention that addresses drivers of adolescent substance use and delinquent-type behaviour can possibly be used alongside a brief, intervention that addresses individual risk behaviours. For the current study though, the

major product is the modified, integrated intervention (modified in Chapter 7) that is ready to test.

Despite the focus on a practical outcome, the dissertation draws attention to a number of important issues that arose during the adaptation of the intervention that are important to consider for the implementation of the intervention.

It can be argued that this is one of the strengths of this dissertation: it approaches the identification and adaptation of a behavioural intervention for the local context in a step-by-step, systematic manner. This was established by engaging experts in Delphi groups, reviewing the available evidence and engaging community stakeholders as well as adolescents for feedback and refinement of the instruments and evidence-based intervention.

Recommendations for Implementation of SBIRT Package

In resource-poor settings, providing evidence-based interventions is a key component of effective services. However, simply providing an evidence-based programme is not adequate. This is partly because evidence is often developed within a research setting, which shows efficacy of the intervention, but not how it works in the actual field (effectiveness). In addition, the implementation of new programmes in actual practice is increasingly recognised as complicated (Fixsen et al., 2005), as numerous challenges may exist in delivering the programme as intended. Once an evidence-based programme or intervention has been developed, or in the case of the current study, modified, there are certain steps that can be taken that may encourage service providers to implement the intervention.

According to the Diffusion of Innovation Theory (Rogers, 2002), before such an intervention is likely to be implemented it is necessary to demonstrate that the SBIRT package developed in this dissertation can deliver observable results and offers a relative advantage to other existing interventions. Although many organisations in Cape Town are implementing programmes to address substance use or delinquent-type behaviour, it is not

known how these were developed, selected for use, or whether they are effective (Ebbole, 2007). Unless these programmes have been evaluated, the effect that they have on the targeted behaviours is unknown. Although their study included a mix of adult and adolescent programmes, Myers, Burnhams and Fakier (2009) conducted research to find out about the evaluation of substance abuse services in South Africa and found that less than half of these services had ever evaluated their programmes. Even among those that had, less than a third was using standardised questionnaires. Therefore a number of services that are provided in this context cannot conclusively say that their programmes are effective. The 2013-2017 South African National Drug Master Plan (Department of Social Development (2013) has also changed its focus to evidence-based substance use programmes, and advises that the evidence-based solutions are developed and applied as far as possible. The current study therefore provides an adolescent programme that has been listed as evidence-based in its original format, and the integrated intervention is likely to be evidence-based as well.

To show that an intervention is effective, pilot testing needs to be conducted to demonstrate if there are any observable results on the targeted outcomes of the modified BI (*RAD-PAL*) (Bumbarger & Perkins, 2008; Ingoldsby, 2010). Pilot testing the intended programme design can also identify possible barriers to implementing the intervention package (Grol & Grimshaw, 2003) that services providers may face. The objective would be to identify as many of the barriers to implementation of the proposed SBIRT package as possible, so that they can be removed or taken into account. However, this is often not enough to disseminate an innovation.

To advance the implementation of an innovation, there are a number of suggested steps that *RAD-PAL* can take according to the Diffusion of Innovation Theory. Rogers (2002) suggests that innovations that demonstrate relative advantage, are compatible with existing norms and needs, are not too complex, and allow for trial-ability and offer observable results

on the targeted problem behaviours have better chance of being implemented. Previous research has shown that perceived relative advantage is the most important predictor of whether or not innovative interventions are implemented, and this is often a shortcoming with preventive interventions (Rogers, 2002). Similarly, Greenlagh, Robert, Macfarlane, Bate and Kyriakidou (2002) found that interventions that were more cost-effective or effective in terms of outcomes than others are more easily adopted and implemented. In order to demonstrate relative advantage of RAD-PAL, a comparative effectiveness study will need to be conducted following a pilot study which would attempt to demonstrate observable results. This comparative effectiveness study should include a cost-effectiveness component.

In addition, ensuring that *RAD-PAL* is compatible with the norms and values that already exist within the organisations that may run the intervention, and that it is perceived as relatively simple to implement, may increase the chances of it being adopted. Trial-ability is another point about getting programmes to test this new package for a limited period with no obligation to commit to routine use unless they feel it is of value, which promotes the diffusion of intervention. Finally, if the effects are observable, or the changes in behaviours are seen as the direct result of the activities of the programme (Greenlagh et al., 2002; Ebbole, 2007; Rogers, 2002), this will promote adoption. These steps could be followed before *RAD-PAL* is implemented.

The thesis shows that providing an BI that is suspected to be evidence-based such as the *RAD-PAL* programme would be useful to address some of the factors that are related to the targeted problem behaviours, but to truly make a difference in such a context, this intervention would need to be coupled with other interventions that address environmental and other risk factors.

For example, at the school level, The Education Amendment Act (2007) gives schools permission to conduct random searches on dangerous objects or illegal drugs, as well as drug

testing on school property if there is suspicion that these behaviours are occurring. The results of the study indicate that at least in the communities that were targeted, these activities do take place on school property. If drugs or weapons are found on students, parents are contacted (Western Cape Education Department, 2007), but there is not always a clear strategy for addressing these problem behaviours and preventing further harms. A brief intervention such as RAD-PAL could be a useful component of an approach for intervening with adolescents identified as using drugs during school searches or random drug testing.

Once this proposed SBIRT package has been implemented and shown to be efficacious, the services should be sustainable in the communities that they are offered. The goal of sustainability is the long-term survival and continued effectiveness of the implemented intervention (Fixsen et al., 2005). A challenge to the sustainability of the *RAD-PAL* intervention in the context which is already resource poor, is finding the resources to continue the implementation of services. A framework for assisting with the sustainability of interventions has been recently developed (Schell et al., 2013), which suggests that several activities should be undertaken to secure the sustainability of the intervention, even during the developmental phases. This includes activities that have already been included in the current thesis, such as programme adaptation, but also include getting outside parties involved on a greater level, to secure funding and political support (Schell et al., 2013). If this SBIRT programme is proven effective and is implemented, such factors will be considered. Other factors that could impact on the likelihood of implementation will now be discussed.

Implications for Practice

A number of factors have been shown in the implementation science literature to be associated with the successful implementation and uptake of programmes. These include the following: that practitioners receive training in intervention delivery and are assessed on their performance regularly; the organisations providing the programme have the appropriate

infrastructure to implement SBIRT packages; communities and potential recipients of the programme are involved in the programme selection and evaluation; and city and provincial funding avenues, policies, and regulations creating an environment that allows for delivery of the intervention (Fixsen et al., 2005). The researcher felt that some important recommendations related to these factors emerged from the results of the current study.

In terms of the service providers who will implement the selected intervention within a SBIRT framework, recommendations came out of Chapter 7 around which characteristics that they should possess. These included being able to relate to adolescents while still establishing professional boundaries, and the acquisition of various counselling skills, including listening skills and empathy. The need for these skills has been reiterated extensively in the literature (Center for Substance Abuse Treatment, 1998; Iowa Consortium for Substance Abuse Research and Evaluation, 2003). Besides these recommendations, Chapter 7's findings did not specify that counsellors need to have specific qualifications.

This suggests that task-shifting the intervention delivery from health professionals to lay persons may be feasible and acceptable. Task-shifting consists of the redistribution of tasks among health workers (World Health Organization, 2008). If there is a shortage of fully qualified health professionals such as doctors and nurses (Kazdin & Rabbitt, 2013) in a setting with limited resources and infrastructure, task-shifting to non-professional staff may be a feasible option. While these staff members may be less qualified, if they receive adequate training and supervision (Van Ginneken et al., 2013; World Health Organization, 2008) they should be able to carry out the intervention. A recent Cochrane systematic review indicated that individuals with no mental health background can indeed deliver psychological treatments effectively in low- to middle-income country settings (Van Ginneken et al., 2013).

As there were no recommendations about the kind of qualifications needed, it should be acceptable to task shift the delivery of the interventions from qualified mental health

professionals to non-professionals. Since the mental health service system for adolescents in Cape Town is limited and there are few mental health professionals available (Flisher et al., 2012), task-shifting to less qualified but trained and supervised staff may increase the reach of the intervention service while still provide good quality services. Task-shifting is a possibility with the current intervention, as general health workers can be easily trained to administer the screening tools, conduct assessment, and with training and support deliver the manualised intervention. While some face-to-face training on screening, BI principles and motivational interviewing skills will be needed, there are several courses available in Cape Town that provide this training. In addition, the existing intervention manual (Appendix T) which was adapted for the delivery of the intervention in this context, could support task-shifting. This manual provides a comprehensive step-by-step guide to conducting the BI, and would ensure that the training is delivered in a standardised manner (World Health Organisation, 2008). Task shifting by peer counsellors with careful supervision has also been shown to be a feasible option in previous South African studies (Myers et al., 2012; Petersen et al., 2012), although with adults only, to close the service gap that exists within service provision.

Suggestions around task shifting also include ensuring that there are quality assurance mechanisms in place (World Health Organisation, 2008). For the current intervention, there are such measures of fidelity and quality assurance (Appendix U) that were developed to ensure that counsellors do provide services to adolescents as they are meant to be provided.

Chapter 6 and 7 also argue that the organisational setting that the intervention is implemented in is an important factor. While the original *Teen Intervene* was developed in a high-school setting (Winters & Leitten, 2007), generally BIs, as described in this thesis can be implemented and have been found to be effective in a number of settings, such as educational settings, mental health and general healthcare settings such as doctors' offices

and health care clinics (Dembo et al., 2011; Levy & Knight, 2008; Winters et al., 2007). There is no reason to believe that it would not work in a community-based setting.

An important future area for research is organisational readiness in order to ensure that organisations are ready and willing to adopt the SBIRT package. This will include identifying all potential barriers as well as ways to creatively address these barriers before implementation can take place.

Previous research has identified organisational readiness as a key component to the success of implementing an intervention (Damschroder et al., 2009). According to Weiner (2009), readiness for change refers to the organisations' staff members' commitment to implementation the changes, as well as their belief in their capability to do this. Incorporating evidence-based interventions may depend on a number of factors that exist within the organisation (Weiner, 2009) Although it was not examined specifically in this dissertation, establishing a supportive organisational climate which may facilitate the implementation of such an intervention may involve addressing leadership and management deficits as well as obtaining their support for the intervention, dealing with resource challenges and staffing issues, as well as putting policies and procedures into place that will support implementation (Gale & Schaffer, 2009; Simpson, 2009; Weiner, 2009).

If organisations are resistant towards the intervention, this will negatively affect how it is implemented. Organisational resistance can be a barrier to change, and needs to be managed if the intervention is to be implemented (Simpson, 2009). To promote a positive organisational climate, methods can be utilised that may increase service providers' interest in the intervention, with buy-in needs obtained from various levels of staff in the organisation, and support from management.

Research in support of organisational readiness for screening and BI services has been conducted in a similar low-to middle-income country settings, namely in Brazil (Cruvinel, Richter, Bastos, & Ronzani, 2013). It would be useful to explore this further in South Africa.

In terms of ensuring that the targeted adolescents receive all of the services that are part of the intervention, and to promote this intervention being effective by changing outcomes, contingency management is suggested. By positively reinforcing adolescent participants' progress during the intervention programme, this could increase their retention in the programme as well as have a positive effect on their behaviours (Stanger & Bugney, 2010). This could include positive reinforcement at assessment and intervention sessions, such as the receipt of vouchers and food, as well as a certificate upon completion of the *RAD-PAL* programme. Indeed, Winters et al. (2011) recommends the use of this type of reinforcement not only for retention, but adds that it also encourages healthy changes in problem behaviour by rewarding adolescents when they are abstinent from substance use. There is also evidence that contingency management, in combination with motivational interviewing principles which BIs are based on, have been successful in reducing substance use among adolescents (Carroll et al., 2006; Stanger & Budney, 2010; Stanger, Budneya, Kamonb, & Thostensen, 2009). While it has not been widely used in the current context, a small study with pregnant, drug-using women in Cape Town found reinforcing participants with verbal recognition, stickers on graphs, and certificates (as is a recommendation that emerged from the current study) to be both acceptable and feasible (Jones et al., 2014).

Social media could possibly also be utilised as a tool to assist in the implementation of the SBIRT package (Marsch & Dallery, 2012). While cell phone technology and web-based contingency management strategies are definite possibility to use, this will need to be investigated further during pilot testing of the intervention, as this is still in its infancy in terms of its use for adolescents.

Recommendations for Future Research

The next step of this research is to pilot test the identified and adapted intervention package, including all of the tools that accompany the actual intervention. First, pilot testing will provide information on the intervention's effect on substance use and delinquent-type behaviour outcomes, as well as other secondary outcomes that may be influenced by the intervention. Second, it will give a better indication of whether the intervention is feasible, or if further challenges need to be addressed and changes made. Third, it can be expanded to be able to generalise outside of the context of the study, and include a more representative sample of adolescents with substance use and delinquent-type behaviours in Cape Town.

In terms of specific processes, it is suggested that rapid, biological testing for substances is investigated as an additional measure during pilot testing to improve reliability of self-report of the assessment measures (Burleson & Kaminer, 2006). It is also recommended that a clear protocol for referral to treatment is set in place for those adolescents who may need more intensive and specialised treatment services. It is suggested that organisations reach an agreement to establish a referral pathway from BI services to treatment organisations that can provide further treatment (Substance Abuse and Mental Health Services, 2011), in order to facilitate adolescents' further access to care (Babor et al., 2011). It is expected that these will mainly be substance-abuse treatment programmes, as this is the primary outcome of the intervention. Appropriate treatment programmes for adolescents should have certain characteristics, including that they are also evidence-based and developmentally appropriate for adolescents (Levy & Knight, 2008).

There has not been much research conducted on referral to treatment for adolescent substance users specifically, with a recent review finding that none of the included studies that followed the SBIRT framework reported on the referral to treatment process in any way (Mitchell et al., 2013). Future research could therefore add to knowledge on this integral

activity as part of the intervention services, to ensure that referral services cover a range of issues that might be faced by the target population and are also accessible to the target population and build networks with the service providers.

Following pilot testing, and any further refinements made based on the results, relative advantage and cost-effectiveness will need to be demonstrated before implementation according to Diffusion of Innovation Theory. Only then can future research be conducted to address implementation of the intervention. This will include working with a broad set of service providers within communities to assess readiness, possibly policy makers and the relevant stakeholders, such as members of the Western Cape government departments. Resources for the start-up costs of the intervention (Fixsen et al., 2005) and evaluation of its efficacy will also need to be secured. The implementation of interventions may be easier to set up if it is part of an existing programme or service (Fixsen et al., 2005), such as existing organisations that address adolescent issues to some degree. While the current study was not able to investigate such implementation issues, this is an area for future investigation.

Conclusion

In conclusion, the several studies described here are the first known scholarly effort to investigate the relationship between substance use and delinquent-type behaviours in a developing country setting, and then use these results to inform the identification and modification of a screening, brief intervention and referral to treatment package. Although the relationship between substance use and delinquent-type behaviour was not as clear-cut as was expected, there was still some evidence that these two behaviours do co-occur at different time points in adolescents, and that there was some interaction between the behaviours (specifically with cigarette use).

The SBIRT package developed in this study includes a set of tailor-made tools which are now ready to be pilot-tested before they can be recommended to service providers for

implementation in Cape Town. The dissertation has provided practical recommendations around the development, modification and implementation of a short screener, comprehensive assessment instrument and evidence-based intervention, which hopefully will be welcomed by both service providers and other stakeholders as it will deal with these problems early on and up to this point services in this context have been minimal up to this point.

In conclusion, the intervention package provides a promising option for problem behaviours in adolescents in Cape Town, and if following piloting and further trials with methodological rigour is proven to be efficacious and implemented to scale, may potentially add to existing services for at-risk adolescents in resource-poor communities.

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Appendix A: Modified GAIN-Short Screener (GAIN-SS)

CLIENT ID: _____

1. What is today's date? (MM/DD/YYYY) ___/____/_____

2. What is your gender? 1-Male 2-Female

3. How old are you today? |__|__| years

The following questions are about common psychological, behavioral, and personal problems. These problems are considered significant when you have them for two or more weeks, when they keep coming back, when they keep you from meeting your responsibilities, or when they make you feel like you can't go on. After each of the following questions, please tell us the last time that you had the problem, if ever, by answering, "In the past six months" (3), "7-12 months ago" (2), "1 or more years ago" (1), or "Never" (0).	In the past month	2 to 6 months ago	7 to 12 months ago	1+ years ago	Never
	4	3	2	1	0
IDScr 1. When was the last time that you had significant problems…					
a. with feeling very trapped, lonely, sad, blue, depressed, or hopeless about the future?	4	3	2	1	0
b. with sleep trouble, such as bad dreams, sleeping restlessly, or falling asleep during the day?	4	3	2	1	0
c. with feeling very anxious, nervous, tense, scared, panicked, or like something bad was going to happen?	4	3	2	1	0
d. with becoming very distressed and upset when something reminded you of the past?	4	3	2	1	0
e. with thinking about ending your life or committing suicide?	4	3	2	1	0
EDScr 2. When was the last time that you did the following things two or more times?					
a. Lied or conned to get things you wanted or to avoid having to do something?	4	3	2	1	0
b. Had a hard time paying attention at school, work, or home?	4	3	2	1	0
c. Had a hard time listening to instructions at school, work, or home?	4	3	2	1	0
d. Were a bully or threatened other people?	4	3	2	1	0
e. Started physical fights with other people?	4	3	2	1	0
SDScr 3. When was the last time that…					
a. you used alcohol or other drugs weekly or more often?	4	3	2	1	0
b. you spent a lot of time either getting alcohol or other drugs, using alcohol or other drugs, or feeling the effects of alcohol or other drugs?	4	3	2	1	0
c. you kept using alcohol or other drugs even though it was causing social problems, leading to fights, or getting you into trouble with other people?	4	3	2	1	0
d. your use of alcohol or other drugs caused you to give up, reduce or have problems at important activities at work, school, home, or social events?	4	3	2	1	0
e. you had withdrawal problems from alcohol or other drugs like shaky hands, throwing up, having trouble sitting still or sleeping, or that you used any alcohol or other drugs to stop being sick or avoid withdrawal problems?	4	3	2	1	0

After each of the following questions, please tell us the last time that you had the problem, if ever, by answering, "In the past six months" (3), "7-12 months ago" (2), "1 or more years ago" (1), or "Never" (0).	In the past month	2 to 6 months ago	7 to 12 months ago	1+ years ago	Never
	4	3	2	1	0

CVScr 4. When was the last time that you…

a. had a disagreement in which you pushed, grabbed, or shoved someone?	4	3	2	1	0
b. took something from a store without paying for it?	4	3	2	1	0
c. sold, distributed, or helped to make illegal drugs?	4	3	2	1	0
d. drove a vehicle while under the influence of alcohol or illegal drugs?	4	3	2	1	0
e. purposely damaged or destroyed property that did not belong to you?	4	3	2	1	0

5. Do you have other significant psychological, behavioral, or personal problems that you want treatment for or help with? (If yes, please describe below) ..... Yes 1 No 0

v1. _____

v2. _____

v3. _____

For Staff Use Only

8. Site ID: _____ Site Name v. _____
9. Staff ID: _____ Staff Name v. _____
10. Client ID: _____ Comment v. _____

11. Mode: 1) Administered by staff 2) Administered by other 3) Self-administered

12. Number of 2s and 3s: IDSscr: ____ EDScr: ____ SDScr: ____ CVScr: ____ TDScr: ____

13. Referral: MH_____ SA ____ ANG ____ Other ____ 14. Referral Code: _____

15. Referral comments:

v1. _____ v2. _____ v3

END OF SCREENER

SCRIPT A: [IF ANY BOXES (□) NOT CHECKED, READ:]

Those are all of the questions I have for you. Thank you very much for your time and participation. Let me assure you again that all of the information you have provided will be kept confidential. Also this form will be shredded within one week from the completion of study activities.

SCRIPT B: [IF ALL BOXES (□) CHECKED, READ:]

Based on your answers, you may be eligible to help us organize a study we are conducting on alcohol, drug use and other problem behaviours among adolescents attending high school. If you have a moment now, I would like to tell you a little more about the study we are organizing.

If yes, [READ] The study is being conducted by the Medical Research Council to learn more about the problems behavours that adolescents in high school face in your community. It addresses issues of alcohol and drug use, fighting and carrying weapons to school, bullying, missing school and gangsterims. We are conducting focus group sessions with adolescents in your community to better understand what is happening around these issues. We will also be reviewing interventions we are working on for these adolescents. These groups will last approximately 2 hours, and may be audio taped so that we do not miss any of the important things that are said. If you are interested in participating in the focus groups, I would like to give you an appointment now. I will need to collect some contact information so that I can schedule this appointment and remind you of your appointment. Before you participate in the focus groups, we will go over this study in detail so that you will know what we will be asking of you.

If no, [READ] script A.

Set an appointment. Record appointment DATE_____ and TIME_____.

Record the school where contact was made/where the contact can be found after school hours _____.

[IF REFUSED SCREENER, EXPLAIN: _____]

CONTACT INFORMATION FORM

IDENTIFYING INFORMATION

STAFF ID: ..... |__|__|

CLIENT ID: .....|__|__|__|__|__|__|__|__|

DATE: .....|__|__| / |__|__| / |__|__|__|__|

DD MM YYYY

Please use this form to record any additional information (e.g., nicknames, hangouts, or cell phone numbers, etc.) that will be helpful if you need to schedule an appointment for a later time or the next day. This information should help you find the participant in case they forget to meet at the scheduled location.

PLEASE DO NOT USE FULL NAMES ANYWHERE ON THIS FORM!

Nicknames

_____

Hangouts

_____

Cell Phone Numbers (Specify who cell phone belongs to)

_____

Appendix B: The CRAFFT Screening Questions

Please answer all questions honestly; your answers will be kept confidential.

Part A

During the PAST 12 MONTHS, did you:	**No**	**Yes**	
1. Drink any alcohol (more than a few sips)?	. . .	. . .	If you answered NO to ALL (A1, A2, A3) answer **only B1** below, then STOP.
2. Smoke any marijuana or hashish?	. . .	. . .	
3. Use anything else to get high? Like illegal drugs (e.g. tik, buttons), over the counter/ /prescription drugs, things that you sniff, smoke, inhale	. . .	. . .	If you answered YES to ANY (A1 to A3), answer **B1 to B6** below.

Part B

	No	**Yes**
1. Have you ever ridden in a CAR driven by someone (including yourself) who was "high" or had been using alcohol or drugs?	. . .	. . .
2. Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?	. . .	. . .
3. Do you ever use alcohol or drugs while you are by yourself, or ALONE?	. . .	. . .
4. Do you ever FORGET things you did while using alcohol or drugs?	. . .	. . .
5. Do your FAMILY or FRIENDS ever tell you that you should cut down on your drinking or drug use?	. . .	. . .
6. Have you ever gotten into TROUBLE while you were using alcohol or drugs?	. . .	. . .

CONFIDENTIALITY NOTICE:

The information on this page may be protected by special federal confidentiality rules (42 CFR Part 2), which prohibit disclosure of this information unless authorized by specific written consent. A general authorization for release of medical information is NOT sufficient.

Appendix C: Personal Experience Screening Questionnaire (PESQ)

DIRECTIONS

- This survey asks about you and your experiences, including those with alcohol and other drugs.
  Some questions ask how often certain things have happened.
- Please read each question carefully.
- Please answer every question.
- Mark only one response for each question.
- Please fill in the circle under the answer that is right for you.

DEMOGRAPHICS

RACE

O White
O Black African
O Indian
O "Coloured"
O Other

GENDER

O Male
O Female

AGE

O 12 years
O 13 years
O 14 years
O 15 years
O 16 years
O 17 years
O 18 years
O 19 years

CURRENT GRADE

O grade 6
O grade 7
O grade 8
O grade 9
O grade 10
O grade 11
O grade 12

How often have you used alcohol or other drugs:	***Never***	***Once or Twice***	***Some-times***	***Often***
1. At home……..	O	O	O	O
2. At places on the street where adults hang around……...	O	O	O	O
3. With older friends……...	O	O	O	O
4. At the homes of friends or relatives…….....	O	O	O	O
5. At school activities, such as dances or football games……...	O	O	O	O
6. At work……...	O	O	O	O
7. When skipping school…….	O	O	O	O
8. To enjoy music or colors, or to feel more creative…….	O	O	O	O
How often have you:				
9. Made excuses to your parents about your alcohol or drug use…….	O	O	O	O
10. Gotten alcohol or drugs from an adult…….……...	O	O	O	O
11. Used alcohol or drugs secretly, so nobody would know you were using…….……...	O	O	O	O
12. Made excuses to teachers about your alcohol or drug use……	O	O	O	O
13. Been upset about other people talking about your drinking or drug use…….	O	O	O	O
When using alcohol or drugs, how often have you:				
14. Spilled things, bumped into things, fallen down, or had trouble walking around……	O	O	O	O
15. Seen, felt, or heard things that were not really there……	O	O	O	O
16. Spent money on things you wouldn't normally buy…….	O	O	O	O
17. Found out things you said or did while drinking or using drugs that you did not remember……...	O	O	O	O
In order to pay for alcohol or drugs, how often have you:				
18. Done something illegal…….	O	O	O	O

Appendix D: Active Parental Consent Form

Alcohol & Drug Abuse Research Unit
Medical Research Council (Cape Town)
Francie van Zijl Drive, Parow Tel: +27-21-938-0533
Fax +27-21- 938-0342 E-mail: tara.carney@mrc.ac.za
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PARENTAL/ GUARDIAN CONSENT TO PARTICIPATE IN STUDY ACTIVITIES
"RAD-PAL" Project: Reducing Alcohol and Drug Use and other Problem Behaviours among Adolescent Learners

Introduction to the Project: The purpose of this study is to learn about behaviours that place adolescents at risk for alcohol and drug use and how best to intervene with adolescents with these kinds of problems. This study is being conducted by the University of Cape Town's Department of Psychiatry and Mental Health and the Medical Research Council's Alcohol & Drug Abuse Research Unit. Ethics approval has been obtained from the University of Cape Town's Faculty of Health Sciences Human Research Committee.

Your son/daughter was chosen by chance to be part of a research project, and we would like to invite him or her to take part in the start-up of this research project. We are requesting your permission for us to invite your child to choose whether or not to participate in this project. If he or she chooses to do so, he or she will be asked to complete a questionnaire (with the rest of their class) during which we will find the best way of asking adolescents questions about their problems. It is also possible that he or she will be asked to participate in additional study activities.

Please take some time to read the information presented here, which will explain the details of this project. You may contact the study staff with any questions you may have about this project.

Your Child's Participation: If both you and your child agree that s/he can take part in this study, we will ask him or her to give us some information about problems that they may be having, as well as their contact information. Your child will be asked to take part in completing a short questionnaire, at the beginning of one of their school periods.This will help us to know how best to identify students who may be at risk for problem behaviours and also how long it takes to answer all of the questions. The questionnaire will take about five minutes to complete, and we will ask the entire class to complete the same questionnaire a few days later. In addition, your child may be selected to take part in an interview, and asked questions about alcohol and other drug use and problem behaviours. This will help us to know how best to ask these kinds of questions and how long it takes to answer all of the questions. Your child may also be given the chance to attend two group discussions. These discussions will cover topics like the kinds of problems that adolescents' experience, school responses to these problems, and services that are available to adolescents. We will then ask him/her to attend another group the following week where they will give us feedback on services that we are developing. The interviews and groups will be conducted after school, in their communities, and should take approximately an hour each.

Risks if your child takes part in the study? Some of the questions might make your child feel uncomfortable because they ask about sensitive issues like alcohol and drug use. S/he will not have to answer any questions that they do not want to. They will also not be asked to put their names on any

of the forms used to collect data, and in the case of the interviews and focus groups, they will not be referred to by name. Teachers and parents will also not be present when learners complete their interviews. Project staff will also make sure that they do not discuss this project with anyone outside of the study.

Benefits if your child takes part in the study? Your child may personally learn new ways to deal with problems that he or she might face. It will also help us to learn ways to better help adolescents who engage in problem behaviour in the Western Cape.

What if your child does not agree to take part or you do not want them to take part? You and your child can choose whether to participate or not. Your child has a choice: if your child does not want to participate, he or she will not be forced to do so. If he or she volunteers to be in this study, they may withdraw at any time without any negative consequences. He or she may also refuse to answer any questions that he or she does not want to answer.

Confidentiality and Privacy: While your child will provide us with some personal information, no one will be able to identify individual learners because all information will be confidential. Teachers will not be present during the study activities. All information will also be stored in locked cabinets, and only project staff will be able to access this information.

Will your child be paid to take part in this study and are there any costs involved? Your child will not be paid to take part in the interview, but we will give your child a voucher if they participate in the interview, and/or the focus group. There will be no costs involved for you or them, if they do take part.

Is there anything else that you should know or do? If you have any questions or concerns about the research, please feel free to contact Tara Carney (Principal Investigator) at the Medical Research Council, Parow (Cape Town), Tel: 021 938 0533. If you have questions regarding your rights as a research subject, contact the Human Research Ethics Committee, Faculty of Health Sciences, University of Cape Town, Tel: 021 406 6338.

Declaration by participant
Please complete this form and give it to your child to return to us if you would like them to participate in the project.

I declare that I (*your name*) ……Signature …….

Give permission for my child……. to participate in the following study activities (depending on which ones they are selected for):
Questionnaire ☐
Interview ☐
Focus Group ☐
Signed at (*place*) .....…..…….. on (*date*) ……...…….. 2011/12.

Your relationship to the child: (e.g. mother, father, aunt, guardian)…….....
Telephone number (during the day): ……..

Appendix E: Assent for Screening

Alcohol & Drug Abuse Research Unit
Medical Research Council (Cape Town)
Francie van Zijl Drive, Parow Tel: +27-21-938-0533
Fax +27-21- 938-0342 E-mail: tara.carney@mrc.ac.za
PO Box 19070 Tygerberg 7505, South Africa

STUDENT ASSENT TO PARTICIPATE IN SCREENING: A QUESTIONNAIRE

"RAD-PAL" Project: Reducing Alcohol and Drug Use and other Problem Behaviours among Adolescent Learners

About the project

We are starting a project to learn about alcohol, drug use and other problem behaviours among high-school students in the Western Cape. We are asking you to participate in the start up of this project by giving us a few minutes of your time. We think you can help us learn about how we can find out which adolescents may be engaging in risk behaviours. We have been given permission from your parent/guardian for you to take part in this study, should you want to.

What if you agree to be part of this project?

If you agree to be part of this study, we will ask you to give us some information about yourself and your contact information. We will ask you to help us with a short questionnaire that we will use to ask adolescents about the kinds of problems they may be experiencing. The questionnaire will include questions about alcohol, tobacco and other drug use, and other behaviours such as skipping school and conflict with peers. If you take part, you will help us find out if we are asking the right questions to identify students who may be at risk of these problems. If you take part in the project, it will take five minutes of your time today. We will also come back in a week and ask you to fill out another short questionnaire that will also take five minutes. We may contact you to take part in further activities for the project.

Can we contact you to take part in other activities for this project?

Yes ☐

No ☐

Risks if you take part in the project? Some of the questions might make you feel uncomfortable because they ask about sensitive issues like alcohol and drug use, and behaviour that could get you into trouble with your parents or teachers. We will keep your answers private. We will only need to report it if you tell us that you are going to hurt yourself or someone, or an adult has hurt you. If this is the case, we will talk to you about reporting it first. We will also give you referrals to help you if you feel that you need help with any of your behaviours.

You will also not be asked to put your names on any of the forms used to collect data (except for your nickname and contact number so we contact you in the future). Teachers and parents will not be present when you complete your interviews and will not be given any feedback about the answers you give us. Project staff will not discuss this project with anyone outside of the study.

Benefits if you take part in the study? You may start to think about new ways to deal with problems that you might be facing. Information that you give us will also help us to learn ways to better help other adolescents who engage in problem behaviour.

Also remember the following:

- You have a choice to take part in this study and can choose not to take part.
- Your teachers, parents or anyone else outside of the project will not find out what you have said in your interview today.
- You do not have to answer all of the questions if you do not want to.
- Project staff will make sure that any information that we collect about you is kept safe. Any information with your name and contact details will be double-locked and stored separately from your questionnaires, so that these cannot be linked together
- We ask you to write your first name/nickname and contact details below, but this will not be linked to any other information that you give us.

Please write your name, your school, date and signature below **to indicate that you agree to participate in today's pre-testing of the questionnaire.**

Agree	Disagree	REQUIRED
		I agree to take part in this project, which I fully understand.
		I agree that I will allow the project staff to collect information from me by completing the questionnaire.

Your school …….

Your name: ……

Your signature …… Today's date ……..

We are looking forward to having you complete the questionnaire!

Appendix F: Showcards

Showcard A1

Mother	1
Father	2
Aunt	3
Uncle	4
Grandparent(s)	5
Foster Parent(s)/Guardian	6
Siblings (brothers/sisters)	7
Other relative(s)	8
Other	9

Showcard A2

Not at all	Less than monthly	monthly	weekly	daily
1	2	3	4	5

Showcard A3

1 to 5 times	=1
6 to 10 times	=2
More than 10 times	=3

Showcard A4

a. Within the last day = 1
b. Within the last 2 days = 2
c. Within the last week = 3
d. Within the last 2 weeks = 4
e. Within the last month = 5

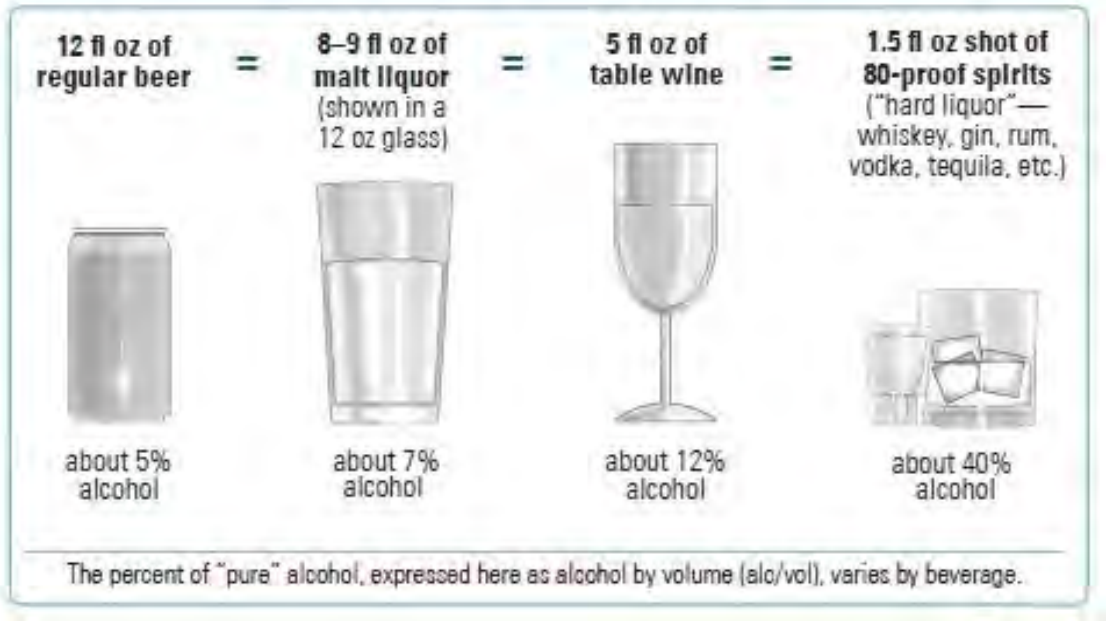
f. Within the last 6 months = 6

g. More than 6 months ago = 7

h. More than one year ago = 8

Showcard A5

Each one of these is equal to one drink



340ml	340ml	120ml	25ml
Beer	Malt Beer	Wine	Hard Liquor

Showcard I1

Didn't like class/teacher.....1

Didn't like school.....2

For fun.....3

Got talked into it.....4

To avoid a test/exam.....5

Didn't feel like going..... 6

Missed/had no transport.....7

Family obligation.....8

To be with friends.....9

Other…….10

Showcard I2

Alone.....1

Others/friends from school.....2

Friends not from school.....3

Family.....4

Showcard I3

Fighting.....1

Disobeying teacher.....2

Drugs/alcohol.....3

Skipping class or being late.....4

Possession of weapons.....5

Smoking tobacco.....6

Other ……..7

Showcard I4

Got "F" or failed test.....1

Got detention.....2

Got suspended.....3

Got "F" in or failed course.....4

Had to write "I will not cheat" on board.....5

Other ……..6

Showcard I5

Retail store/shop…...1

My home……..……2

Private home…..…..3

Warehouse……..….4

After-school job…...5

School……..…6

Car or other vehicle..7

Construction site…..8

Other……..9

Showcard I6

Car…….....….1

Truck……..……....2

Motorbike…..…..3

Other…....….....4

Showcard I7

Stranger……..1

Family Member……..2

Friend…….3

Other……..4

Showcard I8

Go riding ……...1

Keep it……2

Keep parts from it…...3

Sell it...……4

Sell parts from it…….5

Other.....6

Showcard I9

Partner/Girlfriend/Boyfriend 1

Other Family Member 2

Friend 3

Acquaintance (someone you didn't know well).....4

Stranger 5

Other..... 6

Showcard I10

Me……..... 1

Someone Else …….2

Both of us 3

Showcard I11

Boyfriend/Girlfriend.....1

A date.....2

Friend.....3

Acquaintance.....4

Stranger.....5

Family member.....6

Other.....7

Showcard J1

Never.....1

Almost never.....2

Sometimes.....3

Often.....4

Always.....5

Showcard K1

Strongly Agree.....1

Agree.....2

Disagree.....3

Strongly disagree.....4

Showcard L1

Strongly Disagree.....1

Disagree.....2

Undecided/Unsure..... 3

Agree.....4

Strongly agree.....5

Appendix G: Adolescent Assent Form

Alcohol & Drug Abuse Research Unit
Medical Research Council (Cape Town)
Francie van Zijl Drive, Parow Tel: +27-21-938-0533
Fax +27-21- 938-0342 E-mail: tara.carney@mrc.ac.za
PO Box 19070 Tygerberg 7505, South Africa

STUDENT ASSENT TO PARTICIPATE IN PRETESTING: A QUESTIONNAIRE

"RAD-PAL" Project: Reducing Alcohol and Drug Use and other Problem Behaviours among Adolescent Learners

About the project
We are starting a project to learn about alcohol, drug use and other problem behaviours among high-school students in the Western Cape. We are asking you to participate in the start up of this project because you may have (or had) some of these problems. We think you can help us learn more about adolescents similar to you and how we can develop services for adolescents. We have been given permission from your parent/guardian for you to take part in this study, should you want to.

What if you agree to be part of this project?
If you agree to be part of this study, we will ask you to give us some information about yourself and your contact information. We will ask you to help us pre-test a questionnaire that we will use to ask adolescents about the kinds of problems they may be experiencing. The questionnaire will include questions about alcohol, tobacco and other drug use, and other behaviours such as skipping school and conflict with peers. If you take part, you will help us know how best to ask these questions, and how long it will take to answer all of them. The interview will take about an hour to complete. We will offer you a R50 voucher to thank you for your time today.

Risks if you take part in the project? Some of the questions might make you feel uncomfortable because they ask about sensitive issues like alcohol and drug use, and behaviour that could get you into trouble with your parents or teachers. We will keep your answers private. We will only need to report it if you tell us that you are going to hurt yourself or someone, or an adult has hurt you. If this is the case, we will talk to you about reporting it first. We will also give you referrals to help you if you feel that you need help with any of your behaviours.

You will also not be asked to put your names on any of the forms used to collect data (except for this form and information that we use in case we need to contact you). Teachers and parents will not be present when you complete your interviews and will not be given any feedback about the answers you give us. Project staff will not discuss this project with anyone outside of the study.

Benefits if you take part in the study? You may start to think about new ways to deal with problems that you might be facing. Information that you give us will also help us to learn ways to better help other adolescents who engage in problem behaviour.

Also remember the following:

- You have a choice to take part in this study and can choose not to take part.
- Your teachers, parents or anyone else outside of the project will not find out what you have said in your interview today.
- You do not have to answer all of the questions if you do not want to.
- Project staff will make sure that any information that we collect about you is kept safe. Any information with your name and contact details will be double-locked and stored separately from your questionnaires, so that these cannot be linked together
- We ask you to write your name below, but this will not be linked to any other information that you give us.

Please write your name, your school, date and signature below **to indicate that you agree to participate in today's pre-testing of the questionnaire.**

Agree	Disagree	REQUIRED
		I agree to take part in this project, which I fully understand
		I agree that I will allow the project staff to collect information from me during the interviews.

Your school …….

Your name: ……

Your signature …… Today's date ……..

We are looking forward to having you complete the pretesting!

Appendix H: Assessment Instrumentation

Client ID number: _____

RECORD TIME: _____ (USE 24 HOUR CLOCK)

SECTION A: BACKGROUND INFORMATION

Name:_____

Age:__ Date of Birth: _____

Race: □ Black African□ Coloured □Indian □ White □ Other

Sex □ Male □ Female □ Other: _____

Name of School:_____ Grade:_____

We are going to start off by asking you some questions about your family and services that you might have received in the past. Please remember that everything you tell me here is confidential. Do you have any questions before we begin?

With whom do you currently live? Circle all that apply. (See showcard A1)

Mother/mom	1
Father/dad	2
Aunt	3
Uncle	4
Grandparent(s)	5
Foster Parent(s)/Guardian	6
Siblings	7
Other relative(s)	8
Other	9

Diagnostic Inventory

A. Sociodemographic Factors

1. What is your dad's current occupation (job)? _____
2. What is your mom's current occupation (job)? _____
3. Has anybody in your family ever had a problem with drug or alcohol abuse? □ Yes □ No

If yes, please specify who _____?

IF Q3=NO, SKIP TO QUESTION 5

4. Has anybody in your family ever been in treatment (help) for drug or alcohol abuse or attended meetings of Narcotics (NA) or Alcoholics Anonymous (AA)?

□ Yes □ No

If yes, please specify who_____?

5. Is there any history of mental health problems (psychological, mood) in your family?

□ Yes □ No

If yes, specify who: _____

6. Have you ever had a problem with drug or alcohol abuse? □ Yes □ No

If yes, provide details:

_____

_____

IF Q6=NO, SKIP TO QUESTION 13

7. Have you ever been in treatment/a programme for an alcohol or drug problem?

□ Yes □ No

8. How old were you when you were first treated? _____

_____

9. How old were you when you were last treated?

_____

10. How many times were you admitted to an inpatient (stay there) or outpatient (attend in the day) programme for alcohol or drug problems?

_____

11. What type(s) of programme(s) were you in?
Check each box that applies:

□ Outpatient psychiatric/counselling (go in the day)

□ Detoxification centre (got medicine to help come off drugs)

□ Inpatient psychiatric (stay/"book" in for psychological problems)

□ Outpatient drug (attend in the day)

□ Aftercare residential (e.g., halfway house) (after you got treatment)

□ Inpatient drug (stay there)

□ Aftercare non-residential (e.g. AA meetings, counselling)

12. Did you complete this programme? □ Yes □ No

13. Have you ever seen someone like a psychologist, social worker etc for the way that you were behaving or feeling? □ Yes □ No

What was the reason (what did they say was wrong)?

_____

IF Q13=NO, SKIP TO SECTION B

14. How old were you the first time you received the services (see Question 11)?

_____

15. Did you complete these services? □ Yes □ No

16. How many times total did you receive services for a mental or emotional problem?

_____

The next set of questions will ask you about your smoking, drinking and any drug use. Please remember that your answers will be confidential, and will stay between us.

SECTION B: TOBACCO USE

The next set of questions refer to your possible use of tobacco products.

1. Have you smoked cigarettes (enjies), cigars, a pipe (including hookah pipe) in the past six months □ Yes □ No

IF Q1=NO, SKIP TO SECTION C

2. How old were you when you first started smoking? _____

3. At what age were you smoking the most?_____

4. During that time, did you smoke at least 10 times per month? □ Yes □ No

5. How often have you smoked in the last six months? (see showcard A2)

	Not at all	Less than monthly	monthly	weekly	daily
i. Smoke cigarettes	1	2	3	4	5

ii. Smoke cigars	1	2	3	4	5
iii. Smoke a pipe/hookah	1	2	3	4	5

6**.** How often do you smoke **<u>now</u>**? (see showcard A2)

	Not at all	less than monthly	monthly	weekly	daily
i. Smoke cigarettes	1	2	3	4	5
ii. Smoke cigars	1	2	3	4	5
iii. Smoke a pipe/ hookah	1	2	3	4	5

7. Have you EVER wanted/tried to cut down or stop smoking? □ Yes □ No

IF Q7=NO, SKIP TO SECTION C

8. IF YES, have you actually managed to stop smoking altogether? □ Yes □ No

9. How many times have you tried to cut down or stop altogether? (see showcard A3)

1 to 5 times =1

6 to 10 times =2

More than 10 times =3

10. When you tried to quit smoking, did you experience any of these problems?

a. Feeling like you really needed to smoke? □ Yes □ No

b. Being crabby or grumpy (bad mood)? □ Yes □ No

c. Feeling nervous or tense (seenuweeagtig)? □ Yes □ No

d. Had trouble concentrating? □ Yes □ No

e. Feeling very restless (couldn't keep still)? □ Yes □ No

f. Had headaches? □ Yes □ No

g. Feeling tired/ sleepy? □ Yes □ No

h. Had an upset stomach/runny tummy? □ Yes □ No

i. Had your heart rate slow down? □ Yes □ No

j. Had increased appetite (were more hungry)? □ Yes □ No

k. Feeling down/sad or depressed? □ Yes □ No

IF ALL OF Q10=NO, SKIP TO SECTION C

11. Did you start smoking again to get rid of this/these problems or to make them get better? □ Yes □ No

SECTION C: ALCOHOL

The next set of questions refer to your possible use of alcohol.

1. Have you ever drunk alcohol to the point where you felt drunk (pap, gesuip)? (Where you can feel the effects but were not necessarily falling down drunk) □ Yes □ No

IF Q1=NO, SKIP TO SECTION E

2. Have you been drunk (gesuip) five or more times in your life?

□ Yes □ No

3. How old were you the first time you drank to the point of feeling the effects of alcohol (pap, gesuip) or becoming drunk, that is, to where your speech was slurred or you had trouble walking? _____

4. How long has it been since you last used alcohol to the point where you felt its effects?

Choose the answer that most closely matches your experience (see showcard A4)

i. Within the last day = 1
j. Within the last 2 days = 2
k. Within the last week = 3
l. Within the last 2 weeks = 4
m. Within the last month = 5
n. Within the last 6 months = 6

o. More than 6 months ago = 7

p. More than one year ago = 8

5. How many times in the past 6 months did you drink until you felt drunk (pap, gesuip)? (A number from 0-100) _____

6. How many times in the past year did you drink until you felt drunk (pap, gesuip)? (A number from 0-100) _____

7. During the past year how many alcoholic drinks did you drink at one time or sitting on average? (A number from 0-100) _____ (see showcard A5)

8. What types of alcoholic beverages do you usually drink? (mark all that apply)

Beer.....1
Cider.....2
Wine.....3
Coolers (e.g. Bacardi, Breezer, Smirnoff Ice) 4
Spirits (Liquor).....5
Home brew 6
Mixed Drink 7
OTHER.....99
Specify: _____

9. In a typical 24-hour period**,** how many of each type of drink do you have?

Bottle of beer, cider, cooler ..... |__|__|
Glass of wine ..... |__|__|
Shot of liquor ..... |__|__|
Glass of liquor ..... |__|__|
Mixed drink ..... |__|__|
Home brew bucket ..... |__|__|
Other beverage.....|__|__|

Specify: _____

SECTION D: ALCOHOL ABUSE/DEPENDENCE

NOTE: Only ask this section if the client has used alcohol five or more times to the point of getting drunk in their lifetime.

1. Has your use of alcohol caused you to miss school more than once or twice? □ Yes □ No

2. Has your use of alcohol caused your performance at school to be worse than it could be? □ Yes □ No

3. Has your use of alcohol caused you to be suspended or expelled from school? □ Yes □ No

4. Has your use of alcohol caused you to be fired from a (part-time) job? □ Yes □ No

5. Do you think that your use of alcohol has caused your marks to get worse, and do you still drink anyway? □ Yes □ No

6. Have you used alcohol at school or at a part-time job? □ Yes □ No

IF YES, How many times? _____

7. Have you gone to school or to work while drunk on alcohol? □ Yes □ No

IF YES, How many times? _____

8. Have you driven a car or motorbike while drunk on alcohol? □ Yes □ No

IF YES, How many times? _____

IF THE CLIENT IS MALE, SKIP TO QUESTION 10

9. Have you been pregnant and continued to use alcohol even though it was against medical advice (i.e. a doctor or nurse said you shouldn't)? □ Yes □ No

10. Have you done anything else risky, while drunk on alcohol, that could have resulted in danger or physical harm to yourself or someone else? □ Yes □ No

IF YES, How many times? _____

If yes, provide details (what have you done)?

_____

11. Have you been using a machine (e.g., lawn mower, chain saw, work machinery) while drunk on alcohol? □ Yes □ No

IF YES, how many times? _____

12. Has your use of alcohol caused you any legal problems (e.g. Driving Under the Influence, arrested for possession, underage drinking)? □ Yes □ No

13. Have you been in trouble with the police or law because of using alcohol? □ Yes □ No

Type of first occurrence_____

Age of first occurrence _____

Type of most recent occurrence_____

Age of most recent occurrence_____

14. Has your use of alcohol upset any of your friends to the point where they don't speak to you anymore or hang out with you? □ Yes □ No

(Answer yes only if more than just a minor disagreement)

15. Has your use of alcohol upset anyone you were dating (boyfriend/girlfriend) to the point where you had a big fight or ended the relationship? □ Yes □ No

16. Have any problems with your friends or family started or become worse because of your alcohol use? □ Yes □ No

17. Have you gotten into physical fights (bots) when you were using alcohol? □ Yes □ No

18. Have you had lots of arguments with your parents or other adults about your alcohol use? □ Yes □ No

19. When you first started to use alcohol, how many drinks of the same drink did it take to get drunk? _____

20. How many drinks do you need to take now to feel its effects (drunk)? (A number from 0-100)

_____

21. Do you find that you now need to drink more

alcohol than you needed previously to get drunk (pap, gesuip)? □ Yes □ No

22. Have you ever tried to cut down or stop drinking? □ Yes □ No

IF NO, SKIP TO QUESTION 27

23. **IF YES**, Have you actually stopped smoking or chewing altogether? □ Yes □ No

IF NO, SKIP TO QUESTION 27

23. How many times have you tried to cut down or stop altogether?

1 to 5 times = 1

6 to 10 times = 2

more than 10 times = 3

24. Have you had the shakes or tremors of your hands

after stopping or cutting down on drinking, or had that feeling

the morning after drinking? □ Yes □ No

25. Sometimes people experience the shakes when they quit

drinking. Have you had the shakes when you quit drinking?

□ Yes □ No

26. Have you had any of the following problems listed below after you quit drinking?

a. Being really confused, such as not knowing where you are or what time of day it is. ☐ Yes ☐ No

b. Rapid (fast) heartbeat and breathing. ☐ Yes ☐ No

c. Fever or chills. ☐ Yes ☐ No

d. Sweating. ☐ Yes ☐ No

e. Elevated (high) blood pressure. ☐ Yes ☐ No

f. Hallucinations (tokkie vang/word mal): seeing, hearing, smelling, or feeling anything that really isn't there (like feeling things crawling on or under your skin, seeing visions, or hearing voices). ☐ Yes ☐ No

g. Depression or feeling sad or down. ☐ Yes ☐ No

h. Nervousness or feeling all hyped up. ☐ Yes ☐ No

i. Fits, convulsions or seizures (aanval). ☐ Yes ☐ No

j. Trembling or twitching. ☐ Yes ☐ No

k. Aches or pains. ☐ Yes ☐ No

l. Sleep disturbances or bad dreams/nightmares. ☐ Yes ☐ No

m. Running nose. ☐ Yes ☐ No

n. Yawning a lot or feeling sleepy/tired. ☐ Yes ☐ No

o. Thinking or concentration problems. ☐ Yes ☐ No

p. Weight gain or loss, or big change in appetite (eat more or less). ☐ Yes ☐ No

q. Other._____ ☐ Yes ☐ No

27. Have you ever drunk alcohol to make a hangover/babbelas better ? ☐ Yes ☐ No

IF YES, how many times? _____

28. Have you used alcohol to stop getting a hangover/babbelas/kopseer?

□ Yes □ No

IF YES, how many times? _____

29. Have there been times when you drank more alcohol than you had planned to use? □ Yes □ No

IF YES, how many times? _____

30. Have you drank alcohol even though you had planned not to use it? □ Yes □ No

IF YES, how many times? _____

31. Have you drank alcohol for a lot more hours than you had planned? □ Yes □ No

IF YES, how many times? _____

32. Have you tried unsuccessfully (failed) to cut down or stop using alcohol? □ Yes □ No

IF YES, how many times? _____

33. Have you tried to cut down or control your alcohol use by switching to another drug? □ Yes □ No

IF YES, how many times? _____

34. Do you often wish that you could control your alcohol use? □ Yes □ No

35. Do you spend a lot of time getting or buying alcohol □ Yes □ No

(e.g., driving long distances, going to the store often)?

36. Do you spend a lot of time using alcohol/drinking? □ Yes □ No

37. Do you spend a lot of time recovering from

heavy use of alcohol e.g. from a hangover/babbelas? □ Yes □ No

38. Have you stopped taking part in clubs, sports teams, or □ Yes □ No

other activities because it got in the way of using alcohol?

39. Have you gone without important things that you wanted □ Yes □ No

or needed, in order to get or pay for alcohol?

40. Have you spent less time in a hobby (stokperdjie) that was important to

you, because it was taking time away from using alcohol? □ Yes □ No

41. Have you stopped doing anything else that used to be

important to you, because it interfered with using alcohol? □ Yes □ No

IF YES, provide

_____

42. Have you continued to drink even though a doctor or nurse told you that you have a serious physical disability or medical problem that might □ Yes □ No

be made worse by drinking alcohol? **(Record yes only if a chronic or**

serious enough to require medical care.**)**

43. Have you been told by a doctor or nurse that your drinking

has caused you a physical disability or medical problem? □ Yes □ No

44. Have you carried on drinking even though a doctor or nurse told you it might make a serious mental or psychological disorder worse **(Record yes only if disorder is chronic or serious enough to require professional treatment.)** □ Yes □ No

45**.** Have you been told by a doctor or nurse that your drinking has caused you to suffer a serious mental or psychological disorder (in your head)? □ Yes □ No

SECTION E: CANNABIS

The next set of questions refer to your possible use of cannabis (cannabis, weed, dagga, ganga).

1**.** Have you ever used cannabis (weed, cannabis, dagga, ganga)? □ Yes □ No

IF Q1=NO, SKIP TO SECTION G

2. Have you used cannabis five or more times in your lifetime? □ Yes □ No

3. How old were you when you first used cannabis? _____

4. How long has it been since you last used cannabis to get high (gerook)?

Choose the answer that most closely matches your experience (see showcard A4)

a. Within the last day = 1
b. Within the last 2 days = 2
c. Within the last week = 3
d. Within the last 2 weeks = 4
e. Within the last month = 5
f. Within the last 6 months = 6
g. More than 6 months ago = 7
h. More than one year ago = 8

5. How many times do you think that you have used cannabis in the past 6 months? (A number from 0-100) _____

6. How many times do you think that you have used cannabis in the past year? (A number from 0-100)

_____

SECTION F: CANNABIS ABUSE/DEPENDENCE

NOTE: Only ask this section if the client has used <u>cannabis five or more times</u> to the point of getting high in their lifetime.

Now I want to ask you some questions about your use of cannabis/dagga/weed. Please answer each question using yes or no unless I specify otherwise.

7. Has your use of cannabis caused you to miss school or part-time work than once or twice? ☐ Yes ☐ No

8. Has your use of cannabis caused your performance at school to be worse than it could be? ☐ Yes ☐ No

9. Has your use of cannabis caused you to be suspended or expelled from school? ☐ Yes ☐ No

10. Has your use of cannabis caused you to be fired from a part-time job? ☐ Yes ☐ No

11. Do you think that your use of cannabis has caused your marks to get worse and do you still use it anyway? ☐ Yes ☐ No

12. Have you used cannabis at school or at a part-time job? ☐ Yes ☐ No
<u>IF YES</u>, how many times? _____

13. Have you gone to school or to a part-time job while high (gerook) on

cannabis? □ Yes □ No

IF YES, how many times? _____

14. Have you driven a car or motorbike while high (gerook) on cannabis? □ Yes □ No

IF YES, how many times? _____

IF THE CLIENT IS MALE, SKIP TO QUESTION 10

15. Have you been pregnant and continued to use cannabis even though you knew itmight hurt the baby? □ Yes □ No

16. Have you done anything else risky, while high (gerook) on cannabis, that could have resulted in danger or physical harm to yourself or someone else? □ Yes □ No

IF YES, how many times? _____

Provide details:

_____

17. Have you been using a machine (e.g., lawn mower, chain saw, work machinery) while high on cannabis? □ Yes □ No

IF YES, how many times? _____

18. Has your use of cannabis caused you any legal problems (e.g., Driving under the influence, arrested for possession, being high)? □ Yes □ No

19. Have you been in trouble with the law/police because of using cannabis? □ Yes □ No

Type of first occurrence_____
Age of first occurrence _____

Type of most recent occurrence_____

Age of most recent occurrence_____

20. Has your use of cannabis upset any of your friends to the point where they no longer speak to you or hang out with you? **(Record yes only if more than a minor disagreement)** □ Yes □ No

21. Has your use of cannabis upset anyone you were dating (boyfriend/girlfriend) to the point where you had serious arguments or ended the relationship? □ Yes □ No

22. Have any problems with your friends or family started or become worse because of your use of cannabis? □ Yes □ No

23. Have you gotten into physical fights (bots) when you were using cannabis? □ Yes □ No

24. Have you had lots of arguments with your parents or other adults about your cannabis use? □ Yes □ No

25. When you first started to use cannabis, how much did you need in order to get high (gerook) (e.g., how many joints at one sitting) (A number from 0-100)?

_____

26. How much cannabis (how many joints) do you currently need to get high (gerook) (A number from 0-100)?

27. Do you find that you now need much more cannabis than you needed before to get high (gerook)? □ Yes □ No

28. After stopping or cutting down on cannabis have you had withdrawal symptoms- that is you didn't feel like your usual self, or perhaps you even felt sick? □ Yes □ No

29. Have you had any of the symptoms listed below after you quit using cannabis?

a. Severe confusion, such as not knowing where you are or what time of day it is. ☐ Yes ☐ No
b. Rapid/fast heartbeat and breathing. ☐ Yes ☐ No
c. Fever or chills. ☐ Yes ☐ No
d. Sweating. ☐ Yes ☐ No
e. Elevated (high) blood pressure. ☐ Yes ☐ No
f. Hallucinations (tokkie vang): seeing, hearing, smelling, or feeling anything that really isn't there (e.g. feeling things crawling on/under your skin, seeing visions, or hearing voices) ☐ Yes ☐ No
g. Depression or feeling sad or down. ☐ Yes ☐ No
h. Nervousness or feeling all hyped or worked up. ☐ Yes ☐ No
i. Fits, convulsions or seizures (aanval). ☐ Yes ☐ No
j. Trembling or twitching. ☐ Yes ☐ No
k. Aches or pains. ☐ Yes ☐ No
l. Sleep disturbances or bad dreams/nightmares. ☐ Yes ☐ No
m. Running nose. ☐ Yes ☐ No
n. Yawning a lot or feeling sleepy/tired. ☐ Yes ☐ No
o. Thinking or concentration problems. ☐ Yes ☐ No
p. Weight gain or loss, or a big change in appetite (eat more or less). ☐ Yes ☐ No
q. Other._____ ☐ Yes ☐ No

30. Have you taken cannabis to help with withdrawal symptoms? ☐ Yes ☐ No

IF YES, how many times? _____

31. Have you used cannabis to stop withdrawal symptoms before they start? ☐ Yes ☐ No

IF YES, how many times? _____

32. Have there been times when you used larger amounts of cannabis than you had planned to use? ☐ Yes ☐ No

IF YES, how many times? _____

33. Have you used cannabis even though you had planned not ☐ Yes ☐ No

to use it?

IF YES, how many times? _____

34. Have you used cannabis for a lot more hours than you had planned? □ Yes □ No

IF YES, how many times? _____

35. Have you tried unsuccessfully (failed) to cut down or stop using cannabis?

IF YES, how many times? _____ □ Yes □ No

36. Have you tried to reduce or control your cannabis use by switching to another drug? □ Yes □ No

37. **IF YES**, how many times? _____

38. Do you often wish that you could control your cannabis use? □ Yes □ No

39. Do you spend a lot of time getting or buying cannabis (e.g., driving long distances, going to the dealer often)? □ Yes □ No

40. Do you spend a lot of time using cannabis? □ Yes □ No

41. Do you spend a lot of time recovering from heavy use of cannabis? □ Yes □ No

42. Have you stopped taking part in clubs, sports teams, or other activities because it got in the way of using cannabis? □ Yes □ No

43. Have you gone without important things that you wanted or needed, in order to get or pay for cannabis? □ Yes □ No

44. Have you spent less time in a hobby that was important to you, because it was taking time away from using cannabis? □ Yes □ No

45. Have you stopped doing anything else that used to be important to you, because it interfered with using cannabis? □ Yes □ No

IF YES, provide details:

_____

46. Have you continued to use dagga even though a doctor or nurse told you that you have a serious physical disability or medical problem that might be made worse by smoking dagga? **(Record yes only if a chronic or serious enough to require medical care.)** □ Yes □ No

47. Have you been told by a doctor or nurse that using dagga has caused you a physical disability or medical problem? □ Yes □ No

48. Have you carried on using dagga even though a doctor or nurse told you it might make a serious mental or psychological disorder worse? □ Yes □ No
(Record yes only if disorder is chronic or serious enough to require professional treatment.)

49. Have you been told by a doctor or nurse that using dagga has caused you to suffer a serious mental or psychological disorder? □ Yes □ No

50. How many joints or cannabis cigarettes (zols, joints)/slowboat/twakpillitjie do you smoke at one time or sitting? (A number from 0-100) _____

SECTION G: OTHER DRUGS

The next set of questions refer to your possible use of other drugs.

1. Have you ever used any of these other drugs?

a. Amphetamines
(tik, meth, speed, lolly, pakkies) □ Yes □ No

b. Cocaine
(coke, crack, rock) □ Yes □ No

c. Heroin
(h, smack) □ Yes □ No

d. Mandrax
(buttons, white pipe, pille, knitten, cream) □ Yes □ No

e. Club Drugs

(Ecstasy, E, X, GHB,
Ketamine, LSD, Acid) □ Yes □ No

f. Inhalants (Snuif/Sniff)
(glue, petrol, paint, lighter fluid,
aerosols, amylbytrate nitrite/ "poppers") □ Yes □ No

g. Unga (heroin and dagga) □ Yes □ No

h. Other (Specify) □ Yes □ No

IF NO TO ALL, SKIP TO SECTION I.

2. Have you ever used any of these drugs five times or more? □ Yes □ No

3. Which one of these drugs have you used the most often or for the longest time period?

_____

4. How old were you when you first used (Drug)?

_____

5. How long has it been since you last used (Drug) to get high? (see showcard A3)

a. Within the last day = 1
b. Within the last 2 days = 2
c. Within the last week = 3
d. Within the last 2 weeks = 4
e. Within the last month = 5
f. Within the last 6 months = 6
g. More than 6 months ago = 7
h. More than one year ago = 8

6. How many times do you think that you have used (Drug) in the past 6 months? (A number from 0-100) _____

7. How many times do you think that you have used (Drug) in the past year? (A number from 0-100) _____

SECTION H. Other Drug Abuse/Dependence

NOTE: Only ask this section if the client has used drugs other than cannabis five or more times in their lifetime

Now I want to ask you some questions about your use of (Drug).

1. Has your use of (Drug) caused you to miss school or part-time work more than once or twice? ☐ Yes ☐ No

2. Has your use of (Drug) caused your performance at a part-time job to be worse than it could be? ☐ Yes ☐ No

3. Has your use of (Drug) caused you to be suspended or expelled from school? ☐ Yes ☐ No

4. Has your use of (Drug) caused you to be fired from a part-time job? ☐ Yes ☐ No

5. Do you think that your use of (Drug) has caused your grades to drop, and do you still use anyway? ☐ Yes ☐ No

6. Have you used (Drug) at school or at a part-time job?

   IF YES, how many times? _____ ☐ Yes ☐ No

7. Have you gone to school or to work while high on (Drug)?

   IF YES, how many times? _____ ☐ Yes ☐ No

8. Have you driven a car or motorbike while high on (Drug)?

   IF YES, how many times? _____ ☐ Yes ☐ No

IF THE CLIENT IS MALE, SKIP TO QUESTION 10

9. Have you been pregnant and continued to use (Drug) even though you knew it was against medical advice? □ Yes □ No

10. Have you done anything else risky, while high on (Drug), that could have resulted in danger or physical harm to yourself or someone else? □ Yes □ No

IF YES, how many times? _____

Provide details

_____

11. Have you been using a machine (e.g., lawn mower, chain saw, work machinery) while high on cannabis? □ Yes □ No

IF YES, how many times? _____

12. Has your use of (Drug) caused you any legal problems (e.g., driving under the influence, arrested for possession, being high)? □ Yes □ No

13. Have you been in trouble with the law because of using (Drug)? □ Yes □ No

Type of first occurrence_____

Age of first occurrence _____

Type of most recent occurrence_____

Age of most recent occurrence_____

14. Has your use of (Drug) upset any of your friends to the point where they no longer speak to you or hang out with you? **(Record yes only if more than a minor disagreement)** □ Yes □ No

15. Has your use of (Drug) upset anyone you were dating (boyfriend/girlfriend) to the point where you had serious arguments or ended the relationship? □ Yes □ No

16. Have any problems with your friends or family started or become worse because of your use of (Drug)? □ Yes □ No

17. Have you gotten into physical fights (bots) when you were using (Drug)? □ Yes □ No

18. Have you had lots of arguments with your parents or other adults about your (Drug) use? □ Yes □ No

19. When you first started to use (Drug), how much did you need in order to get high

_____

20. How much (Drug) do you need now to get high?

_____

21. Do you find that you now need much more (Drug) than you needed before to get high? □ Yes □ No

22. After stopping or cutting down on (Drug) have you had withdrawal symptoms- that is you didn't feel like your usual self, or perhaps you even felt sick? □ Yes □ No

23. Have you had any of the symptoms listed below after you quit using (Drug)?

a. Severe confusion, such as not knowing where you are or what time of day it is. □ Yes □ No

b. Rapid/fast heartbeat and breathing. □ Yes □ No

c. Fever or chills. □ Yes □ No

d. Sweating. □ Yes □ No

e. Elevated (high) blood pressure. □ Yes □ No

f. Hallucinations (tokkie vang): seeing, hearing, smelling, or feeling anything that really isn't there (e.g. feeling things crawling on/under your skin, seeing visions, or hearing voices) □ Yes □ No

g. Depression or feeling sad or down. □ Yes □ No

h. Nervousness or feeling all hyped up. □ Yes □ No

i. Fits, convulsions or seizures (aanvalle). □ Yes □ No

j. Trembling or twitching. □ Yes □ No

k. Aches or pains. □ Yes □ No

l. Sleep disturbances or bad dreams/nightmares. □ Yes □ No

m. running nose. □ Yes □ No

n. Yawning a lot or feeling sleepy/tired. □ Yes □ No

o. Thinking or concentration problems. □ Yes □ No

p. Weight gain/loss, or a big change in appetite (eat more or less). □ Yes □ No

q. Other._____ □ Yes □ No

24. Have you taken (Drug) to help with withdrawal symptoms? □ Yes □ No

IF YES, how many times? _____

25. Have you used (Drug) to stop withdrawal symptoms Before they start? □ Yes □ No

IF YES, how many times? _____

26. Have there been times when you used larger amounts of

(Drug) than you had planned to use? □ Yes □ No

IF YES, how many times? _____

27. Have you used (Drug) even though you had planned not to use it? □ Yes □ No

IF YES, how many times? _____

28. Have you used (Drug) for a lot more hours than you had planned? □ Yes □ No

IF YES, how many times? _____

29. Have you tried unsuccessfully (failed) to cut down or stop using (Drug)?

IF YES, how many times? _____ □ Yes □ No

30. Have you tried to reduce or control your (Drug) use by switching to another drug? □ Yes □ No

IF YES, how many times? _____

31. Do you often wish that you could control your (Drug) use? □ Yes □ No

32. Do you spend a lot of time getting or buying (Drug) (e.g., driving long distances, going to the dealer often)? □ Yes □ No

33. Do you spend a lot of time using (Drug)? □ Yes □ No

34. Do you spend a lot of time recovering from heavy use of (Drug)? □ Yes □ No

35. Have you stopped taking part in clubs, sports teams, or other activities because it got in the way of using (Drug)? □ Yes □ No

36. Have you gone without important things that you wanted or needed, in order to get or pay for (Drug)? □ Yes □ No

37. Have you spent less time in a hobby that was important to you, because it was taking time away from using(Drug)? □ Yes □ No

38. Have you stopped doing anything else that used to be important

to you, because it interfered with using (Drug)? □ Yes □ No

IF YES, provide details:

_____

39. Have you continued to use (Drug) despite being warned that you have a serious physical disability or medical problem that might be made worse by using (Drug)? **(Record yes only if a chronic or serious enough to require medical care.)** □ Yes □ No

40. Have you been told by a doctor or nurse that your use of (Drug) has caused you a physical disability or medical problem? □ Yes □ No

41. Have you continued to use (Drug)despite being warned that you had a serious mental or psychological disorder that might be made worse by using(Drug)? **(Record yes only if disorder is chronic or serious enough to require professional treatment.)** □ Yes □ No

42. Have you been told by a doctor that your use of (Drug) has caused you to suffer a serious mental or psychological disorders? □ Yes □ No

SECTION I: DELINQUENT-TYPE BEHAVIOURS

READ: These questions are about things people your age sometimes do. Remember that everything that you tell me is strictly confidential. No one but the research team I work with will ever see your answers. These questions only cover the last year until now. (SHOW CALENDAR)

1a. In the last year, have you run away from home?

Yes 1

No …….....2

IF NO, SKIP TO Q2a

b. How many times? ....._____

c. Were you gone overnight, so that you spent at least one night away from home?

Yes 1

No 2

d. Thinking of the (most serious) time you did this- Why did you run away? (CIRCLE ***ALL*** THAT APPLY)

To get away from parents.....1

For fun and adventure.....2

Had fight with parents.....3

Had problems at school.....4

Other.....5

SPECIFY_____

e. Had you *either* been drinking or taking drugs before or during the time(s) you ran away?

Yes 1

No 2

2a.In the last year, have you skipped classes (stokkies draai, bunked) without an excuse?

Do not include times you were sick.

Yes 1

No 2

IF NO, SKIP TO Q3a

b. How many times? ....._____

c. Think of the time you missed the most school. Did you miss at least one whole day of school?

Yes 1

No 2

d. Why did you skip school? (CIRCLE ***ALL*** THAT APPLY) (see showcard I1)

Didn't like class/teacher.....1

Didn't like school.....2

For fun.....3

Got talked into it.....4

To avoid a test/exam.....5

Didn't feel like going..... 6

Missed lift/had no transport.....7

Had to do something for/with family 8

To be with friends.....9

Other……10

SPECIFY _____

d. Who did you skip school with? (see showcard I2)

Alone.....1

Others/friends from school.....2

Friends not from school.....3

Family.....4

e. Had you been drinking or taking drugs *either* before or during the time(s) you skipped school?

Yes 1

No 2

3a. In the last year, have you been suspended or sent home from school for something you did or said?

Yes 1

No 2

IF NO, SKIP TO Q4a

b. How many times? _____ _____

c. Think of the time you were suspended/sent home from school for the most time.)

How many days did you miss? _____

d. Why were you suspended/sent home from school? (CIRCLE ***ALL*** THAT APPLY) (see showcard I3)

Fighting.....1

Disobeying teacher.....2

Drugs/alcohol.....3

Skipping class or being late.....4

Possession of weapons.....5

Smoking tobacco.....6

Other ……..7

(SPECIFY) _____

e. Who were you suspended/sent home with? (see showcard I2)

Alone.....1

Others/friends from school.....2

Friends not from school.....3

Family.....4

f. Had you *either* been drinking or taking drugs before or during the time you were suspended?

Yes 1

No 2

4a. In the last year, have cheated on any school tests?

Yes 1

No 2

IF NO, SKIP TO Q5a

b. How many times? _____ _____

c. Did you get caught?

Yes 1

No 2

IF NO, SKIP TO Q5a

d. If yes, what happened? (CIRCLE ***ALL*** THAT APPLY) (see showcard I4)

Got "F" or failed test.....1

Got detention.....2

Got suspended.....3

Got "F" in or failed course.....4

Had to write "I will not cheat" on board.....5

Other ……..6

(SPECIFY) _____

In the last year, have you engaged in the following behaviours?	YES	NO	If YES. How many times?	If YES, were you drinking/drugging *either* before/during when it happened
	▼	▼	▼	▼

5a. Lied about your age to get into some place or to buy Something (e.g. lying about your age to buy alcohol or cigarettes, or to get into a bar or nightclub where alcohol was served?.....1……2…….#|__|__|.....1.... 2

5b.Take a lift/ Hitchhiked a ride with a stranger?.....1……2…….#|__|__|.....1.... 2

5c.Carried a hidden gun? .....1……2…….#|__|__|.....1.... 2

5d. Carried any other type of hidden weapon?(e.g. knife).... 1……2…….#|__|__|.....1.... 2

5e. Been loud or noisy in a public place where somebody moaned and you got in trouble?
(Do not include things that happened at school) .....1……2…….#|__|__|.....1.... 2

5f. Begged for money or things from strangers that you didn't need?..... 1……2…….#|__|__|.....1.... 2

5g. Made obscene telephone calls where you called someone and used dirty language/swore? .....1……2…….#|__|__|.....1.... 2

5h. Been drunk in a public place?
(Do not include your house or anyone else's) ..... 1……2…….#|__|__|.....1.... 2

5i. Damaged, destroyed or graffitied on somebody else's property on purpose? (Don't include anything that happened by accident) .....1……2…….#|__|__|.....1.... 2

5k. Not paid for, Got pirate/illegal copies of music, movies etc off the internet? ……..…..1……2…….#|__|__|.....1.... 2

5l. Not paid for other services like going to a movie, taking a bus/train, or things like this?.....1……2…….#|__|__|.....1.... 2

5m. Gone into or tried to go into a building to steal or damage something? ……....1……2…….#|__|__|.....1.... 2

6a. In the last year, have you tried to steal or actually stolen money or things

Yes 1

No 2

IF NO, SKIP TO Q8a

b. How many times? _____ _____ _____

c. Think of the most expensive thing like this you stole or tried to steal.)

About how much was it worth? R_____

d. Did it belong to a family member?

Yes 1

No 2

e. Where did you steal it or try to steal it from? (CIRCLE ***ALL*** THAT APPLY) (see showcard I5)

Retail store/shop……1

My home……..……2

Private home…..…..3

Warehouse……..….4

After-school job…...5

School……..…6

Car or other vehicle..7

Construction site…..8

Other……..9

f. Who were you with? (see showcard I2)

Alone.....1

Others/friend from school.....2

Friends not from school.....3

Family.....4

g. Had you *either* been drinking or taking drugs before or during the time(s) you stole?

Yes 1

No 2

In the last year, have you engaged in the following behaviours?	**YES**	**NO**	**If YES. How many times?**	**If YES, were you *either* drinking/drugging before it happened**
	▼	▼	▼	▼

7a. Shoplifted or taken something from a shop on purpose, including anything you may have already told me about?.....1……2……..#|__|__|.....1.....2

7b. Stolen someone's purse or wallet or picked someone's pocket? ..... 1……2……..#|__|__|.....1.....2

7c. Stolen something from a car that didn't belong to you? …..... 1……2……..#|__|__|.....1.....2

7d. Tried to or actually did buy or sell things that were stolen, including illegal or copied versions of CDs or DVDs? ……..... 1……2……..#|__|__|.....1.....2

7e. Gambled illegally, such betting on cards or sports, online betting? .....1……2……..#|__|__|.....1.....2
(This does not include legal gambling such as buying lottery tickets, bingo, or gambling at a casino).

8a.In the last year, have you taken a car or motorbike for a ride without the owner's permission?

Yes 1

No 2

IF Q8a=No, SKIP TO Q9a

b. How many times? ....._____

c. (IF MORE THAN 1 TIME: Think of the most serious time you did this.)

d. What kind of vehicle was it? (see showcard I6)

Car…….....….1

Bakkie……..…….....2

Motorbike…..…..3

Other…....….....4

SPECIFY _____

e. Who did the vehicle belong to? (see showcard I7)

Stranger……..1

Family Member……..2

Friend…….3

Other……..4

f. Who were you with? (see showcard I2)

Alone.....1

Others/friends from school.....2

Friends not from school.....3

Family.....4

g. Had you *either* been drinking or taking drugs before you took the car/motorbike?

Yes 1

No 2

b. How many times? _____ _____ _____

c. (IF MORE THAN 1 TIME: Think of the most serious time you did this.)

Did the car or other motor vehicle belong to a family member?

Yes 1

No 2

d. What kind of vehicle was it? (see showcard I6)

Car…….....….1

Bakkie……..…….....2

Motor bike…..…..3

Other…....….....4

SPECIFY _____

e. Who did the vehicle belong to? (see showcard I7)

Stranger……..1

Family Member……..2

Friend…….3

Other……..4

f. What were you going to do with it? (see showcard I8)

Go riding ……...1

Keep it……2

Keep parts from it…...3

Sell it...……4

Sell parts from it…….5

Other.....6

SPECIFY_____

g. Who were you with? (see showcard I2)

Alone.....1

Others/friends from school.....2

Friends not from school.....3

Family.....4

h. Had you been drinking or taking drugs before or during the incident?

Yes 1

No 2

READ: Sometimes people hit each other or get involved in fights. The next questions are about that.

9a. In the last year, have you hit someone with the idea of hurting them?

Yes 1

No 2

IF NO, SKIP TO Q13a

b. How many times? _____

c. (IF MORE THAN 1 TIME: Think of the time when the most serious injury happened.)
Please look tell me the letter that corresponds to WHO you hit. (See showcard I9)

Partner/Girlfriend/Boyfriend 1

Other Family Member 2

Friend 3

Acquaintance (someone you didn't know well).....4

Stranger 5

Other.....6

Specify _____

d. Did they hit you first?

Yes 1

No 2

e. Did you hurt them?

Yes 1

No 2

f. Were they seriously injured?

Yes 1

No 2

IF NO, SKIP TO Q10a

h. Was it you or somebody else who got hurt? (see showcard I10)

Me……..... 1

Someone Else …….2

Both of us 3

i. Had you been drinking or taking drugs before or during the incident?

Yes 1

No 2

10a.In the last year, have you thrown objects such as rocks or bottles at people, not just at buildings or cars? Do not include things that you may have already mentioned.

Yes 1

No 2

IF NO, SKIP TO Q11a

b. How many times?_____

c. (IF MORE THAN 1 TIME: Think of the most serious time you did this.)
Did you throw something at a family member?

Yes 1

No 2

d. Was anyone hurt?

Yes 1

No 2

e. Who were you with? (see showcard I2)

Alone.....1

Others/friends from school.....2

Friends not from school.....3

Family.....4

f. Had you *either* been drinking or taking drugs before or during the time that you threw objects?

Yes 1

No 2

11a. In the last year, have you been paid for having sex with someone?

Yes 1

No 2

IF NO, SKIP TO Q12a

b. How many times? _____

c. How old was the person that paid you to have sex with them? Age _____

12a. In the last year, have you physically hurt or threatened to hurt someone to get them to have sex with you?

Yes 1

No 2

IF NO, SKIP TO SECTION J

b. How many times? _____

c. (IF MORE THAN 1 TIME: Think of the most serious time this happened.)

Did you actually have sex with them?

Yes 1

No 2

IF NO, SKIP TO SECTION J

d. If so, who did you have sex with? (see showcard I11)

Boyfriend/Girlfriend.....1

A date.....2

Friend.....3

Acquaintance.....4

Stranger.....5

Family member.....6

Other.....7

SPECIFY _____

16a. In the last year, have you had or tried to have sex with someone against their will, other than what you may have already mentioned?

Yes 1

No 2

IF NO, SKIP TO SECTION J

b. How many times? _____

c. (IF MORE THAN 1 TIME: Think of the most serious time this happened.)

Did you actually have sex?

Yes 1

No 2

SECTION J: ALABAMA PARENTING QUESTIONNAIRE

The following are a numbers of statements about your family. Please rate each item as to how often it typically occurs in your home. If you do not live with your parents, please replace with

whoever your guardian is. The possible answers are Never (1), Almost never (2), Sometimes (3), Often (4), Always (5). PLEASE ANSWER ALL ITEMS. (See showcard J1)

		Never	Almost Never	Sometimes	Often	Always
1. Your parents tell you that you are doing a good job.	☐	1	2	3	4	5
2. Your parents threaten to punish you and then do not do it.	☐	1	2	3	4	5
3. You fail to leave a note or let your parents know where you are going.	☐	1	2	3	4	5
4. You talk your parents out of punishing you after you have done something wrong.	☐	1	2	3	4	5
5. You stay out in the evening past the time you are supposed to be home.	☐	1	2	3	4	5
6. Your parents compliment you when you have done something well.	☐	1	2	3	4	5
7. Your parents praise you for behaving well.	☐	1	2	3	4	5
8.Your parents DON'T know the friends you are with.	☐	1	2	3	4	5
9. Your parents let you out of a punishment early (like lift restrictions earlier)	☐	1	2	3	4	5

SECTION K: PEER DRUG INVOLVEMENT

The next set of questions asks some questions about the friends that you may have. Please tell us which responsesmatches the most with the amount you agree or disagree with each statement. (see showcard K1)

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Some kids I hang around with have trouble at school because they use alcohol or other drugs.	1	2	3	4
2. Some kids I hang around with use alcohol or drugs before or during school.	1	2	3	4
3. The kids I hang around with think it's okay for kids to drink alcohol.	1	2	3	4
4. The kids I hang around with think it's okay for kids to smoke cannabis.	1	2	3	4
5. Some kids I hang around with have trouble with their parents because they use alcohol/drugs.	1	2	3	4
6. The kids I hang around with think it's wrong for kids to get drunk or high.	1	2	3	4
7. The kids I hang around with think it's wrong for kids to use drugs other than alcohol or cannabis (like tik or buttons).	1	2	3	4
8. The kids I hang around with don't use alcohol or other drugs.	1	2	3	4

SECTION L: STAGES OF CHANGE READINESS AND TREATMENT EAGERNESS SCALE

READ: Please read the following statements carefully. Each one describes a way that you might (or might not) feel about your drinking and/or drug use. For each statement, choose a number from 1 to 5 to indicate how much you agree or disagree with it right now. Please only choose one number for every statement. (see showcard L1)

	Strongly Disagree	**Disagree**	**Undecided/ Unsure**	**Agree**	**Strongly Agree**
1. I really want to make changes in my drinking and/or use of drugs.	1	2	3	4	5
2. Sometimes I wonder if I am an alcoholic/addict.	1	2	3	4	5
3. If I don't change my drinking/drug use soon, my problems are going to get worse.	1	2	3	4	5
4. I have already started making some changes in my drinking/drug use.	1	2	3	4	5
5. I was drinking too much/using too much drugs at one time, but I've managed to change my drinking/drug use.	1	2	3	4	5
6. Sometimes I wonder if my drinking/drug use is hurting other people.	1	2	3	4	5
7. I am a problem drinker/have a drug problem.	1	2	3	4	5
8. I'm not just thinking about changing my drinking/drug use, I'm already doing something about it.	1	2	3	4	5
9. I have already changed my drinking/drug use, and I am looking for ways to keep from slipping back to my old pattern.	1	2	3	4	5
10. I have serious problems with drinking/drugs.	1	2	3	4	5
11. Sometimes I wonder if I am in control of my drinking/drug use.	1	2	3	4	5
12. My drinking/drug use is causing a lot of harm.	1	2	3	4	5
13. I am actively doing things now to cut down or stop drinking/using drugs.	1		3	4	5
14. I want help to keep from going back to the drinking/drug problems that I had before.	1	2	3	4	5
15. I know that I have a drinking/drug problem.	1	2	3	4	5

16. There are times when I wonder if I drink/use drugs too much.	1	2	3	4	5
17. I am an alcoholic/drug addict.	1	2	3	4	5
18. I am working hard to change my drinking/drug use.	1	2	3	4	5
19. I have made some changes in my drinking/drug use, and I want some help to keep from going back to the way I used to drink.	1	2	3	4	5

Appendix I: Rating Sheet for Measures

Below you will find a scoring sheet for the revised instruments that we are planning to use with adolescents. This has been revised following a round table meeting in August 2011 as well as pretesting the instrument with 20 adolescents who fit the criteria for substance use and delinquent-type behaviour. Please look at the table below, and rate the items on a scale from 1 to 5 (1=strongly disagree, 2=disagree, 3=unsure, 4=agree, 5= strongly agree). There is also a space for any additional comments that you may have-for example if you feel that certain items should not be included in the questionnaire. If you have any questions please do not hesitate to contact Tara Carney at tara.carney@mrc.ac.za.

Due date: 15th June 2011

Proposed Baseline Questionnaire

Sub-Scale 1: Modified Adolescent Diagnostic Interview						
	1	**2**	**3**	**4**	**5**	**Additional comments (e.g. are there items that should be excluded and why)**
Collect basic demographic information						
Determine family diagnostic problems						
Assess previous alcohol and drug (AOD) treatment						
Examine other services previously received						
Explore client's history of AOD and tobacco use (age of first use, lifetime use)						
Assess tobacco use (including frequency, quantity, type of products)						
Assess (AOD) use (including frequency, quantity, type of AOD)						
Assess symptoms of AOD abuse or dependence						
Determine previous attempts to quit AOD use						
Explore withdrawal symptoms						
Determine problems associated with AOD use (including legal, relationship, physical, mental problems)						

Rate scale on cultural acceptability (for the North Metro area in Cape Town)						
Rate scale on length acceptability (if too long or short, please add comment)						
Sub-Scale 2: Modified Self-Report Delinquency Scale						
	1	**2**	**3**	**4**	**5**	**Additional Comments (e.g. are there items that should be excluded and why)**
Determine occasions when where client has run away from home						
Assess engagement in truant behaviours						
Determine cheating on tests/exams						
Examine lies about age						
Explores engagement in theft						
Assesses minor assaults (including hitting, throwing objects, sex against will)						
Assess displays of public disorder (including hitchhiking, being drunk in public, begging and making obscene phone calls)						
Determines engagement in minor property damage and theft (including joyriding and property damage)						
Explores relationship between AOD and delinquent behaviour (did client drink/use before or during incidents)						
Rate scale on cultural acceptability (for the North Metro area in Cape Town)						
Rate scale on length acceptability (if too long						

or short, please add comment)						
Sub-Scale 3: Alabama Parenting Questionnaire						
	1	**2**	**3**	**4**	**5**	**Additional Comments (e.g. are there items that should be excluded and why)**
Assesses client's perception of parental involvement (Q1, 4, 7, 9, 11, 14, 15, 20, 23, 26)						
Assesses client's perception of positive parenting (Q2, 5, 13, 16, 18, 27						
Assesses client's perception of parental monitoring or supervision (Q Q6, 10, 17, 19, 21, 24, 28, 29, 30, 32)						
Assesses client's perception of parents' consistency of discipline (Q 3, 8, 12, 22, 25, 31)						
Assess client's perception of parental engagement in corporal punishment (Q33, 35, 39)						
Rate scale on cultural acceptability (for the North Metro area in Cape Town)						
Rate scale on length acceptability (if too long or short, please add comment)						
Sub-Scale 4: Peer Drug Involvement						
	1	**2**	**3**	**4**	**5**	**Additional Comments (e.g. are there items that should be excluded and why)**
Explores AOD among peers/friends (Q1, 2, 5, 8)						
Explores friends' views on AOD use (Q3, 6, 7)						
Rate scale on cultural acceptability (for the North Metro area in Cape Town)						
Rate scale on length						

acceptability (if too long or short, please add comment)						
Sub-Scale 5: Stages of Change Readiness and Treatment Eagerness Scale						
	1	**2**	**3**	**4**	**5**	**Additional Comments (e.g. are there items that should be excluded and why)**

Showcards						
Assesses client's recognition of AOD problem (Q Q1, 3, 7, 10, 12, 15, 17)						
Assesses client's motivation to change (Q2, 6, 11, 16)						
Explores client's plans to change/steps taken (Q Q4, 5, 8, 9, 13, 14, 18, 19						
Rate scale on cultural acceptability (for the North Metro area in Cape Town)						
Rate scale on length acceptability (if too long or short, please add comment)						

APPENDIX J: ALABAMA PARENTING QUESTIONNAIRE

		Never	Almost Never	Sometimes	Often	Always
1. Your parents tell you that you are doing a good job.	☐	1	2	3	4	5
2. Your parents threaten to punish you and then do not do it.	☐	1	2	3	4	5
3. You fail to leave a note or let your parents know where you are going.	☐	1	2	3	4	5
4. You talk your parents out of punishing you after you have done something wrong.	☐	1	2	3	4	5
5. You stay out in the evening past the time you are supposed to be home.	☐	1	2	3	4	5
6. Your parents compliment you when you have done something well.	☐	1	2	3	4	5
7. Your parents praise you for behaving well.	☐	1	2	3	4	5
8.Your parents DON'T know the friends you are with.	☐	1	2	3	4	5
9. Your parents let you out of a punishment early (like lift restrictions earlier)	☐	1	2	3	4	5

Appendix K: Interview Schedule for Key Informant Interviews with Stakeholders

Record the following information before starting the information

Interviewer name: _____ Date: _____

Organisation Name: _____Location:_____

Starting time: _____Note-taker name: _____

Interview ID: _____ Gender (circle) male female

Read: Thank you for agreeing to this interview today. The information that we gain from speaking with you today, as well as with other experts working with adolescents and young people will assist us with adapting our intervention for our new study, by ensuring we have the correct information on adolescent problem behaviours and current available services. This study aims to reduce problem behaviours among adolescent high school learners, especially with regard to substance use and delinquent-type behaviours. . As a reminder, we will be audio-taping this interview however your individual responses will remain confidential and will not be linked to you or your facility.

Introduction

1a. Please tell us about the organisation you work for and the focus of their work.

Probe: b. What services do they provide for adolescents specifically?

Probe: c. What is your role and responsibilities at this organisation?

Problem Behaviours at schools

1. In your experience, what are some of the social and behaviour problems that learners engage in high schools in Cape Town?

Prompts: a. What types of problem behaviours do learners students engage in? (Ask for specific examples)

b. How common are these behaviours in schools in Cape Town? Are some areas/schools more affected by others?

2a. Let us look at substance use among high school learners. *Prompts:* Which substances are being used?

Do you think there are any differences between male and female learners?

In which grade are learners more likely to use substances? In which grade is use the highest? In which grade do learners generally start experimenting with alcohol and drugs

2b. Let us look at "conduct" problems including gangs, fighting, aggression, bullying, truancy, crime:

Prompts: Which are the most common negative behaviours experienced at school?

Do you think there are any differences between male and female learners?

In which grade do these behaviours generally start? In which grade are these problems the highest? In your experience are these behaviours related to alcohol or drug use?

3. Discuss some consequences that adolescents may face due to substance use, based on your experiences.
Probe Personal, disciplinary, mental health, behavioural problems.

Consequences/disciplines of problem behaviours at schools

1. How do schools identify/become aware of adolescent students who engage in these behaviours?
   Probe: Generally At what point do adolescents get identified as an at-risk adolescent- at an early stage or when the problem is already established

2. Does the school have a policy for dealing with adolescents with alcohol and drug use (especially on school property) and other disciplinary problems? *Prompts:* Please describe the steps of the school disciplinary process for students who are suspectd to be using substances and/or delinquent-type behaviours.
   a. are students offered intervention- if so what?
   b. How are parents involved (if at all?)
   c. Any kind of support after getting identified as using substances?
   d. And the disciplinary code/process? What are the consequences?

2. At which stage are students suspended /expelled from school?

Existing services

3a. What kinds of interventions (if any) are in place <u>to prevent</u> moderate substance use and behaviour problems among high school learners?
b. How were these interventions developed? (consulted with experts, used literature, intuition)
b. In your experience, how effective are these disciplinary processes in preventing behaviour problems among adolescents?
c. Are there any services to intervene with adolescents when they begin to display problematic behaviours?
Probes: If so, how effective do you think these services are?
Are they routinely provided?
Who provides these services?
Do high risk adolescents like these services?

3b. What additional kinds of interventions do you think are needed to address substance use and behaviour problems among high school learners?

Appendix L: Focus Group Questions for Adolescents

Introduction: Thank you for coming today. You have all been selected to participate in this group because you are in high school and are aware of some of the health and social problems that adolescents like yourselves experience. Through sharing what you know with us, this group will tell us more about the alcohol and drugs and other problems which will then help us develop interventions to reduce alcohol and drug use and other behaviour difficulties among high school learners. We need you as our experts on the experiences of adolescents. All of your opinions and comments are valuable to this, and there are no right or wrong answers.

Before we start, let's talk about some ground rules: Everyone's opinion is important so give everyone a chance to talk. Let us respect each other, so please do not interrupt when someone is speaking. After this group is finished, please do not discuss what another group member said with your friends or family. What is said in the group should stay in the group. However, because there is a small chance someone may share something with someone else, we advise you to not share any personal experiences or information about your life. Finally, please put your cell phones off so that we can begin.

I will now introduce the staff here. Do you have any questions before we begin?

Focus Group 1: Alcohol and Drug Use and Delinquent Behaviours

We are interested in problems that learners experience, especially alcohol and drug related problems and other problems that get learners into trouble with the school and their families.

1. Tell us about substance use among learners in high schools in Cape Town.

   Probes

   What kinds of substances are teens using?

   a. Where do they drink or use drugs (probe: on school property)?
   b. When during the week do they typically use alcohol and drugs? (on weekends? And during weekdays?)
   c. What times of at times of the day do they typically use during the school week (before school/after school)

   If you think about teens you know, what age were they when they first started using alcohol? And for drugs? What kinds of substances do they typically start using first ? (Probe: tobacco, alcohol, dagga)

   d. Do you think alcohol and other drug use can cause problems at school? Talk about some of these.

2. What other kinds of trouble can teens get into when they use alcohol or other drugs?

3. What are some of the reasons for teens starting to use alcohol or other drugs?

Lets talk a bit about these other things that get learners into trouble at school:

4. Tell us about fights that break out at your school. (Prompts: who fights, how bad are the fights, are weapons used, how often, who fights). Are these fights ever related to alcohol or drug use?

Do the fights sometimes start off at school but continue after school (off school premises). Do you know of learners being seriously hurt?

Thank you, lets then talk about what is done about these problems:

a. What does your school do about alcohol and drug use among learners?
b. Are random drug tests ever conducted at your school?
c. How do you think your school becomes aware of learners who use alcohol and drugs?
d. What happens when the school finds out that learners are using alcohol and drugs?
e. Is any kind of help or service offered to learners with alcohol or drug problems
f. Who could students turn to at school for assistance with any of these problems? Do you think that students would turn to these people-why/why not?

5. How do people in authority react when they find out that teens have been using alcohol or drugs or are in some other form of trouble? (Prompts: teachers, parents –do they get angry with you, do they punish you and if so how, do they care?)

6. Do parents know when their children are drinking, using drugs or in other trouble at school? (Prompt how do they find out about these problems?)

7. Would high school learners want to change their drug and alcohol use? What could some of the challenges be to stopping/reducing use? If they did, how do you think it could change their lives?

8. What are some of the other reasons that learners get suspended from your school? And expelled?

Appendix M: Information Sheet for Key Informants

Alcohol & Drug Abuse Research Unit
Medical Research Council (Cape Town)
Francie van Zijl Drive, Parow Tel: +27-21-938-0533
Fax +27-21- 938-0342 E-mail: tara.carney@mrc.ac.za
PO Box 19070 Tygerberg 7505, South Africa

RAD-PAL" Project: Reducing Alcohol and Drug Use and other Problem Behaviours among Adolescent Learners

Purpose of the research: This study is being conducted by the University of Cape Town's Department of Psychiatry and Mental Health and the Medical Research Council's Alcohol & Drug Abuse Research Unit. Ethics approval has been obtained from the University of Cape Town's Faculty of Health Sciences Human Research Committee and the Western Cape Education Department has also given approval. It aims to provide services during after-school periods to adolescents who are experiencing problems such as skipping school, fighting and under-age drinking. If you agree to participate, we will ask you some questions about working with these at-risk adolescents. The interview should take approximately an hour to complete. With your permission, the interview will be tape-recorded, but you will not be asked to state your name on the recording.

Please take some time to read the information presented here, which will explain the details of this project. You may contact the study staff with any questions you may have about this project.

Risks if you take part in the study? While some of the questions may ask about sensitive issues like drug and alcohol use, and problem behaviours among adolescents, we will not ask about your own personal behaviours or for any names. Therefore no risks are anticipated.

Benefits if you take part in the study? While this study may not benefit you personally, the information that you provide to us will help us to learn ways to better help adolescents who engage in problem behaviour in the Western Cape.

Confidentiality and Privacy: Your responses to the interview questions will be kept confidential, and no-one will be able to identify you. Your name will not be used in the tape recordings, or any written or presented material based on these interviews. Furthermore, all information will also be stored in locked cabinets, and only project staff will be able to access this information.

Participation and Withdrawal: You can choose whether to participate or not in this study, and if you do volunteer to participate, you may withdraw at any time without any negative consequences. You may also refuse to answer any questions that you do not want to answer.

Contact: Details: If you have any questions or concerns about the research, please feel free to contact Tara Carney (Principal Investigator) at the Medical Research Council, Parow (Cape Town), Tel: 021 938 0533. If you have questions regarding your rights as a research subject, contact the Human Research Ethics Committee, Faculty of Health Sciences, University of Cape Town, Tel: 021 406 6338.

Appendix N: Adolescent Assent Form

Alcohol & Drug Abuse Research Unit
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STUDENT ASSENT TO PARTICIPATE IN FOCUS GROUP DISCUSSION

"RAD-PAL" Project: Reducing Alcohol and Drug Use and other Problem Behaviours among Adolescent Learners

About the project
We are starting a project to learn about alcohol, drug use and other problem behaviours among high-school students in the Western Cape. We are asking you to participate in the start up of this project because you may have (or had) some of these problems. We think you can help us learn more about adolescents similar to you and how we can develop services for adolescents. We have been given permission from your parent/guardian for you to take part in this study, should you want to.

What if you agree to be part of this project?
If you agree to be part of this study, we will ask you to give us some information about yourself and your contact information. You will be asked to attend two group discussions with about 6 other adolescents similar to yourselves. These discussions will cover topics like the kinds of problems that adolescents' experience, school responses to these problems, and services that are available to adolescents. We will not ask you for personal information. We will then ask you to come back and attend another group the following week where we will continue to talk about problem behaviours. You will also review a programme developed for adolescents with these problems, and give us feedback on this. These groups will be conducted after school, in your community. These group discussions should last up to one hour each. We will offer you a R50 voucher, snacks and cooldrink to thank you for your time today.

We would like to record these group discussions with a tape-recorder to check that we do not miss valuable information as we work on developing services. The tapes will be destroyed after they are reviewed, within one year of recording. You does not have to be taped if they do not want to.

Risks if you take part in the project? Some of the questions might make you feel uncomfortable because they ask about sensitive issues like alcohol and drug use, and behaviour that could get you into trouble with your parents or teachers. We will only need to report it if you tell us during the group that are going to hurt yourself or someone, or an adult has hurt you. If this is the case, we will talk to you about reporting it first. There is a small chance that someone in the group may reveal information to you to others, so remember that you do not have to talk about your own experiences, or mention any names. You will also not be asked to put your names on any of the forms used to collect data (except for this form and information that we will use in case we need to contact you). Teachers and parents will also not be present when you complete your interviews, or attend sessions. No feedback will be given to teachers or parents about you or the information discussed

here. Project staff will also make sure that they do not discuss this project with anyone outside of the study.

Benefits if you take part in the study? You may start to think about new ways to deal with problems that you might be facing. Information that you give us will also help us to learn ways to better help other adolescents who engage in problem behaviour.

Also remember the following:

- You have a choice to take part in this study and can choose not to take part.
- Your teachers, parents or anyone else outside of the project will not find out what you have said in your discussions today.
- You do not have to answer all of the questions if you do not want to.
- Project staff will make sure that any information that we collect about you is kept safe.
- We ask you to write your name below, but this will not be linked to any other information that you give us.

Please write your name, your school, date and signature below **to indicate that you agree to participate in today's focus group.**

Agree	Disagree	REQUIRED
		I agree to take part in this project, which I fully understand.
		I agree that I will allow the project staff to collect information from me during the interviews.
		I agree to take part and talk in these workshop sessions.

Agree	Disagree	OPTIONAL
		I agree to allow my sessions to be audio recorded, so that we do not miss any important things said in the group.

Your school …….

Your name: ……

Your signature …… Today's date ……..

We are looking forward to having you in the focus group.

Appendix O: Interview Schedule for Key Informant Interviews with Stakeholders

Note: This is a continuation from Part 1 of the Interview.

Intervention

1. What suggestions do you have when work with at-risk adolescents to intervene early (i.e. before they dropout out of school, may need treatment for substance use, or become part of the criminal system)

2. Ideally, how could high-risk adolescents be identified in school settings as possible candidates for brief interventions without stigmatizing them.

Prompt: a. Are teachers already aware of these learners?

b. Do you think we could screen a whole class and provide personal feedback to learners on their risk and follow high risk learners with an invitation to participate in an intervention?

3. What would you classify as characteristics of successful brief interventions (interventions with less than six sessions)?

a. *Suggest:* a. Which topics do you think the intervention needs to cover to ensure success?
b. How do you think we could make this intervention attractive to learners so that they will want to participate?
c. Do you think parents or family members need to be involved?

4. Would a two session intervention of approximately four hours in total be feasible in terms of length for 13-16 year olds?

Prompts: a. Would they come to both sessions?

b. Do you think two sessions would be enough?

5. Where would be a good setting to hold one-on-one interventions with at-risk students? *Prompts:* a. Within schools (if so times, location) or within community centres?)

6. What kind of intervention do you think parents would attend that may benefit their children? *Prompts:* Any suggestions on what can be done to make attendance by parents more feasible in terms of time, location etc.

7. Would there be any barriers to at least screening adolescents for intervention services in their high schools? What about barriers to running the intervention on school grounds?

8. Are there any other suggestions that you have for us to make such a brief intervention appealing to adolescents?

Appendix P: Focus Group Questions for Adolescents

Introduction: Thank you for coming back today. Before we start, let's quickly talk about the ground rules: Everyone's opinion is important so give everyone a chance to talk. Let us respect each other, so please do not interrupt when someone is speaking. After this group is finished, please do not discuss what another group member said with your friends or family. What is said in the group should stay in the group. However, because there is a small chance someone may share something with someone else, we advise you to not share any personal experiences or information about your life. Finally, please put your cell phones off so that we can begin.

Do you have any questions before we begin?

Focus Group 2: Interventions (Show adolescents some of the proposed intervention)

1. What are your general thoughts about the interventions?
What do you like most about the interventions?
And what do you like least?

   a. Where and when should such sessions take place within your community?
   Would it be better to have it in a community centre or have these interventions at school? What would be your concerns and worries about having these interventions at your school

2. Do you think high school learners will be interested in this kind of intervention?

   a. Do you think they will benefit from this intervention? Why/ why not?
   (Prompt: learn skills to begin to cope with the pressures of high school such as drug use and problem behaviour?

3. Do you think adolescents will mind if their parents were informed about their participation in this intervention? Do you think parents will want to come to one of these sessions? Why/ Why not?

4. How do you think we can encourage learners to participate in this study? What would help?

5. How do you think learners would prefer to be screened or identified as those who may benefit from the intervention- by teachers, to self-identify themselves (via adverts in school and keep completely confidential) or via screening in class and personal invite?)

6. Are there any changes that need to be made to the intervention?
Prompts a. Was any of the information in the intervention materials difficult to understand?
   b. Did we leave out any of the major issues affecting young people
   c. How do you feel about the language we use in the intervention?

7. How long do you think sessions should be?

8. Do you think learners would come back for a second session? What could we do to encourage them to come back?

9. What do you think about the worksheets that are part of these sessions?

Prompts: a. Do you like the exercises?

b. Can you think of South African examples to make them more relevant to young people in your school and community?

10. Are there any topics that you would you like to know more about?

Appendix Q: Afrikaans Consent Form

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OUER/ VOOG TOESTEMMING OM IN STUDIE AKTIWITEITE DEEL TE NEEM

"RAD-PAL" Projek: Reducing Alcohol and Drug Use and other Problem Behaviours among Adolescent Learners (Die Vermindering van Alkohol en Dwelm Gebruik en ander Gedragsprobleme onder Adolessent Leerders)

Inleiding tot die Projek: Die doel van hierdie studie is om te leer oor gedrag wat adolessente in gevaar kan stel vir alkohol en dwelm gebruik en hoe beste om in te gryp met adolessente wat hierdie sort probleme ervaar. Hierdie navorsing word uitgevoer deur die Uniwersiteit van Kaapstad se Department van Psigiatrie and Geestesgesondheid asook die Mediese Navorsings Raad se Alkohol en Dwelm Misbruik Navorsings Eenheid. Etiese goedkeuring was ook verkry vanaf die Uniwersiteit van Kaapstad se Fakulteit van Gesondheidswetenskap and Menslike Navorsing Kommittee.

U seun/dogter was per toeval gekies om deel te wees van hierdie navorsings projek en ons wil hom of haar graag nooi om deel te neem in die begin fase van hierdie projek. Ons vra u toestemming vir ons om u kind te nooi om te kies of hy of sy in hierdie projek wil deelneem of nie. As hy of sy kies om deel te neem sal hy of sy gevra word om 'n vraelys met die res van die klas te voltooi waartydens ons sal uitvind wat die beste manier is om adolessente vrae te vra oor hulle probleme. Dit is ook moontlik dat hy of sy gevra sal word om deel te neem in addisionele studie aktiwiteite.

Neem asseblief tyd om die informasie rondom die besonderhede van die projek hieronder deeglik deur te lees. U mag die navorsingspersoneel kontak met enige vrae wat u mag hê oor hierdie projek.

U kind se deelname: As u en u kind instem dat hy of sy mag deelneem in hierdie studie sal ons hom of haar vra om vir ons informasie te gee oor probleme wat hulle mag ervaar, asook hulle kontak informasie. U kind se sal gevra word om 'n kort vraelys te voltooi. Dit sal ons help om die beste manier uit te vind om kinders wat in gevaar mag wees vir gedragsprobleme te identifiseer en ook hoe lank dit sal neem om al die vrae te beantwoord. Die vraelys sal omtrent vyf minute neem om te voltooi en ons sal die hele klas vra om dieselfde vraelys 'n paar dae later te voltooi. U kind mag ook gekies word om deel te neem in 'n onderhoud waartydens hy of sy gevra sal word oor alkohol en ander dwelm gebruik asook gedragsprobleme. Dit sal ons help om die beste manier uit te vind om vrae te vra oor hierdie tipe probleme asook hoe lank dit sal neem om al die vrae te beantwoord. U kind mag ook die kans kry om twee besprekings groepe by te woon. Hierdie groepe sal onderwerpe soos die tipe probleme wat adolessente ervaar, die skool se reaksie tot hierdie probleme en die dienste beskikbaar vir adolessente bespreek. Ons sal hom of haar dan ook vra om nog 'n groep die volgende week by te woon waartydens hulle vir ons terugvoering sal gee oor die dienste wat ons besig is om te ontwikkel. Hierdie onderhoude en groepe sal na skool, in die gemeenskap uit gevoer word en sal omtrent een uur elk neem.

Gevare as u kind deel neem in dierdie studie? Sommige vrae mag u kind ongemaklik laat voel omdat dit vrae vra oor sensitiewe kwessies soos alkohol en dwelm gebruik. Hy of sy hoef nie enige

vrae te atwoord as hy of sy nie wil nie. Hulle sal ook nie gevra word om hulle name op enige van die vorms wat ons gebruik om informasie in te samel te meld nie, en in die geval van onderhoude en fokusgroepe, sal hulle nie volgens naam verwys word nie. Onderwysers en ouers sal ook nie teenwoording wees wanneer leerders die onderhoude voltooi nie. Projek personeel sal ook verseker dat hulle nie hierdie projek bespreek met enigiemand buite hierdie studie nie.

Voordele as u kind deel neem in hierdie studie: U kind mag, persoonlik, nuwe maniere leer om probleme wat hy of sy mag ervaar te hanteer. Dit sal ons ook help om beter maniere te leer om adolessente in die Wes Kaap wat gedragsprobleme ervaar te help.

Wat as u kind nie instem om deel te neem nie of u wil nie hê dat u kind moet deel neem nie? U en u kind kan kies om deel te neem of nie. U kind het ’n keuse: as u kind nie wil deel neem nie sal hy of sy nie gedwing word nie. As hy of sy vrywillig deel neem in hierdie studie, mag hy of sy enige tyd ontrek sonder enige negatiewe nagevolge. Hy of sy mag ook weier om enige vrae te beantwoord as hy of sy nie so voel nie.

Vetroulikheid en Privaatheid: Terwyl u kind ons met persoonlike informasie sal voorsien, sal niemand individuele leerders kan identifiseer nie want al die informasie is vertroulik. Onderwysers sal ook nie teenwoording wees gedurende die studie aktiwiteite nie. Alle informasie sal ook gestoor word in gesluite kaste en slegs projek personeel sal toegang tot hierdie informasie hê.

Sal u kind betaal word om deel te neem in hierdie studie en is daar enige koste verbonde? U kind sal nie betaal word om deel te neem in hierdie studie nie, maar ons sal u kind ’n koopbewys gee as hy of sy deel neem in die onderhoud en/of die fokusgroep. Daar is geen koste verbonde aan u kind se deelname nie.

Is daar enigiets anders wat u moet weet of doen? As u enige vrae of kommernisse het oor die navorsing, voel asseblief vry om vir Tara Carney (die Prinsipaal Ondersoeker) by die Mediese Navorsings Raad, Parow (Kaapstad) te kontak, Tel: 021 938 0533. As u enige vrae het omtrent u regte as ’n navorsingsonderwerp, kontak die Menslike Navorsings Etiese Kommittee, Fakulteit van Gesondheidswetenskap, Uniwersiteit van Kaapstad, Tel: 021 406 6338.

Verklaring deur deelnemer:
Voltoor asseblief hierdie vorm en gee vir u kind om aan ons terug te sorg as u wil hê u kind moet deel neem in hierdie projek.

Ek verklaar dat ek (*u naam*)……Handtekening……...

Toestemming gee vir my kind.....om deel te neem in die volgende studie aktiwiteite (afhangende van watter aktiwiteite hulle vir gekies word)

Vraelys ☐
Onderhoud ☐
Fokusgroep ☐

Geteken by (*plek*)……op (*datum*)……..…2012.

U verwantskap aan die kind: (bv. moeder, vader, tante, voog)……

Telefoon nommer (gedurende die dag): ……..

Appendix R: Afrikaans Assent Form

Alkohol & Dwelm Misbruik Navorsings Eenheid
Mediese Navorsings Raad (Kaapstad)
Francie van Zijl Rylaan, Parow Tel: +27-21-938-0533
Faks +27-21- 938-0342 E-mail: tara.carney@mrc.ac.za
PO Boks 19070 Tygerberg 7505, Suid Afrika

STUDENT INSTEMMING OM DEEL TE NEEM IN SKERMNG: 'n VRAELYS
"RAD-PAL" Projek: Vermindering van Alkohol en Dwelm Gebruik en ander Gedrags Probleme onder Adolessent Leerders.

Meer oor die projek
Ons begin a projek om meer te leer oor alkohol, dwelm gebruik en ander gedrags probleme onder hoërskool studente in die Wes Kaap. Ons vra jou om deel the neem in die instelling (begin fase) van die projek deur vir ons 'n paar minute van jou tyd te gee. Ons dink jy kan ons help om meer uit te vind oor watter adolesente mag betrokke wees in gevaarlike gedrag. Ons het toestemming ontvang van jou ouer/voog vir jou om deel te neem in hierdie navorsing, in die geval dat jy wil deelneem.

Wat as jy instem om deel te wees van hierdie projek?
As jy instem om deel te wees van hierdie navorsing sal on jou vra om vir ons informasie te gee oor jouself asook jou kontak informasie. Ons sal jou vra om vir ons met 'n kort vraelys te help wat ons dan sal gebruik om adolessente vrae te vra oor die tipe probleme wat hulle mag ondervind. Die vraelys sal vrae insluit oor alkohol, tabak, en ander dwelm gebruik asook ander gedrag soos om skool te mis en konflik met ander adolessente. As jy deel neem sal jy ons help om uit te vind of ons die regte vrae vra vir die identifisering van studente wat vatbaar is vir hierdie probleme. As jy in hierdie projek deel neem sal dit vyf minute van jou tyd neem vandag. Ons sal ook binne 'n week terug kom en jou vra om nog 'n kort vraelys in te vul wat ook vyf minute sal neem. Ons mag jou miskien kontak om deel te neem in verdere aktiwiteite vir die projek.

Mag ons jou kontak om deel te neem in ander aktiwiteite vir hierdie projek?
Ja ☐

Nee ☐

Gevare as jy deel neem in hierdie projek? Sommige vrae mag jou ongemaklik laat voel want hulle handel oor sensitiewe kwessies soos alkohol en dwelm gebruik asook gedrag wat jou in die moeilikheid mag kry met jou ouers of onderwysers. Ons sal dit net rapporteer as jy vir ons sê dat jy jouself of iemand anders gaan seer maak of as 'n volwassene jou seer gemaak het. In hierdie geval sal ons eers met jou praat voor ons enigiets rapporteer. Ons sal ook vir jou verwysings gee wat jou sal help as jy voel dat jy hulp benodig met enige van jou gedrag.

Jy sal nie gevra word om jou naam te meld op enige van die vorms wat gebruik word om informasie in te samel nie (behalwe vir jou troetelnaam en 'n kontak nommer sodat ons jou in die toekoms kan kontak). Onderwysers en ouers sal ook nie teenwoording wees wanneer jy die onderhoude voltooi

nie en hulle sal ook geen terugvoering ontvang van die antwoorde wat julle ons gee nie. Die projek personeel sal nie die projek bespreek met enigiemand buite die navorsing nie.

Voordele as jy deelneem in die navorsing? Jy mag begin dink oor nuwe maniere om die probleme waarmee jy sukkel te hanteer. Die informasie wat jy vir ons gee sal ook vir ons help om beter wyse te leer om ander adolessente wat betrokke is in gedrags probleme te help.

Onthou ook die volgende:

- Jy het ’n keuse of jy in hierdie navorsing wil deelneem of nie.
- Jou onderwysers, ouers of enigiemand anders buite hierdie projek sal nie uitvind wat jy vandag in jou onderhoud gesê het nie.
- Jy hoef nie al die vrae the antwoord as jy nie wil nie.
- Die projek personeel sal seker maak dat enige informasie wat ons oor jou insamel veilig behou sal word. Enige informasie met jou naam en kontak besonderhede sal gesluit en eenkant van jou vraelys bewaar word sodat hierdie twee nie met mekaar verbind kan word nie.
- Ons vra jou om jou troetelnaam en kontak besonderhede hier onder te meld maar dit sal nie verbind word met enige ander informasie wat jy vir ons gee nie.

Skryf asseblief jou naam, jou skool, die datum en jou handtekening hieronder **om aan te dui dat jy instem om deel te neem in vandag se pre-toets van die vraelys.**

Stem in	**Stem nie in nie**	**VERUISTES**
		Ek stem in om deel te neem in hierdie projek en ek verstaan alles volledig.
		Ek stem in dat ek die projek personeel sal toelaat om my informasie in te samel deurdat ek hierdie vraelys sal voltooi.

Jou skool: ….. …….

Jou naam : ……..…

Jou handtekening: ……..…… Vandag se datum: ……..……..

Ons sien uit daarna dat jy die vraelys gaan voltooi!

Appendix S: Intervention Handbook

WORKSHOP BOOKLET

If found, please return to: Tara Carney
Medical Research Council
Francie van Zyl Drive
Tygerberg
7505
Tel: 0766668688 (project cell) 0219380326

INTRODUCTION

This handbook was designed to help you with the lessons that you learned in your workshops, and also to help you make decisions about your own behaviours.

It is divided into three parts:

- Session 1
- Session 2
- Resources for you

Please complete the following so that you can identify your booklet if you lose it:

ID number: _____
Date of Workshop 2:_____
Date of 3 Month Follow up: _____
Date of 6 Month Follow up: _____

We look forward to meeting with you for all of your appointments over the next 6 months!

SESSION 1

PROS (GOOD) AND CONS (BAD) WORKSHEET

In the space below, write down some of the positive reasons (reasons why you continue) for you continuing to drink alcohol or use other drugs and engaging in problem behaviour (e.g. skipping school, damaging property, fighting, carrying weapons to school, stealing). Be specific.

1. The pros of my using substances are:

A. _____
_____

B. _____
_____

C. _____
_____

D. _____
_____

In the space below, write down some of the negative reasons (reasons why you may not continue) for you continuing to drink alcohol or use other drugs and taking part in problem behaviour.

2. The cons of my using substances are:

A. _____
_____

B. _____
_____

C. _____
_____

D. _____
_____

3. The pros of my engaging in problem behaviours are:

E. _____
_____

F. _____
_____

G. _____
_____

H. _____
_____

In the space below, write down some of the negative reasons for you continuing to taking part in problem behaviour.

4. The cons of my engaging in problem behaviours are:

E. _____
_____

F. _____
_____

G. _____
_____

H. _____
_____

Now think of some of the positive and negative outcomes (good and bad things that could happen) would be with changing your substance use and problem behaviours. Write some ideas below.

3. The pros of my choice to change my substance using habits are:

A. _____
_____

B. _____
_____

C. _____
_____

D. _____
_____

4. The cons of my choice to change my substance using are:

A. _____
_____

B. _____
_____

C. _____
_____

D. _____
_____

5. The pros of my choice to change my problem behaviours are:

E. _____
_____

F. _____
_____

G. _____
_____

H. _____
_____

6. The cons of my choice to change my problem behaviours are:

E. _____
_____

F. _____
_____

G. _____
_____

H. _____
_____

My friends think: _____
_____
_____

My parents / guardians think: _____
_____
_____
_____

My sisters/brothers / extended family think: _____
_____
_____
_____

The attitudes of all these people affect my decision about using by: _____
_____
_____
_____

TRIGGERS(SOMETHING THAT SETS YOU OFF WANTING TO DRINK OR USE DRUGS) AND CRAVINGS (WHEN YOU REALLY WANT OR DESIRE A DRINK OR DRUGS) WORKSHEET

Circle the reason or reasons for your own drug or alcohol use. Then put a box around the reasons for the problem behaviors.

- **Boredom/being bored** – feeling that there is nothing else to do that is worthwhile. Some people use drugs or alcohol to make the boredom pass more quickly or to make boring activities seem more fun e.g.) doing dishes, homework.

- **Escape/wanting to get away** – to avoid uncomfortable situations, arguments, memories, or actual physical pain. e.g.) family problems, teenage issues. Some people want to escape from their pain and use drugs and/or alcohol to make themselves feel numb or to forget or for example, skip school because they may be having problems with their teachers or school work.

- **Relaxation** – to unwind and reduce tension. Some people don't know how to relax without using drugs/drinking.

- **Socialization/being around other people** – involves social settings such as a party or family gathering. Many people who are shy or uncomfortable in these situations use alcohol and drugs to help to reduce this uncomfortable feeling in themselves and to help them relax in this type of situation. Also, if fighting is part of what you and your friends do when together, you may fight to feel like part of the group or fit in.

- **Improved self-image** – to make yourself look better in the eyes of others, or try to make yourself feel better.

- **Attraction or Romance** –makes it easier for you to talk to someone they are interested in or attracted to.
- **To hell with it/don't care** – when a person has just given up trying to reach any worthwhile goal. This is a person that feels that nothing matters and there is no reason for them to try.

- **No control** – a person who gives up trying to control his or herself. People who feel like this think that they just don't want to make any more effort to fight the urge to drink or use drugs or to not take part in problem behaviours.

Other – please describe:

_____

_____
_____

Things that may make you happy

Here is a list of activities that teenagers like yourself enjoy. Please circle the ones that you enjoy doing

1. Taking a long hot bath
2. Thinking about your future and what you want to do
3. Going out with a boyfriend/girlfriend who doesn't use
4. Going to a movie/watching a DVD
5. Jogging
6. Going for a walk
7. Listening to music
8. Sitting in the sun and relaxing
9. Reading a magazine, comic or book
10. Hanging out with friends who don't use
11. Painting your nails
12. Dancing
13. Rearranging your room or cleaning
14. Cooking/learning to cook
15. Taking your dog for a walk
16. Going swimming or to the beach
17. Drawing or doodling/scribbling
18. Exercising/going to gym
19. Playing sports e.g. soccer, netball
20. Chatting or Talking with a friend or relative (family)
21. Singing
22. Going rollerblading or rollerskating
23. Playing with a pet
24. Painting/drawing
25. Going on a bike (bicycle or motorbike) ride
26. Doing a puzzle or crossword
27. Going shopping
28. Playing a musical instrument
29. Making a gift for someone
30. Buying or listening to CDs
31. Watching sports on TV or going to a match
32. Buying clothes
33. Going out to dinner with friends or family
34. Working (part-time)
35. Getting your hair done or hair cut
36. Going for/having coffee or tea or a cooldrink
37. Going to hear live music/a band
38. Going for a drive
39. Watching a favourite TV show

40. Going to a park or forest
41. Completing a task (e.g. homework)
42. Writing in a diary or writing a letter
43. Spending time with a child
44. Going on a picnic
45. Meditating (relaxing through breathing exercises)
46. Playing cards or dominoes
47. Seeing or showing photos
48. Playing pool
49. Playing video games
50. Talking on the phone
51. Getting a massage
52. Going to the mall / shopping centre
53. Thinking about your good qualities
54. Going ten pin bowling
55. Social media (going on facebook, MiXit)
56. _____
57. _____
58. _____

WHAT SETS OFF BEHAVIORS WORKSHEET

HOW CAN YOU RESPOND?

In the first column, list the reasons/triggers of what sets off your use of drugs and/or alcohol or problem behaviour. In the second column, list several alternatives (what else you can do) to prevent or control these causes and influences.

TRIGGER	ALTERNATIVE/OPTION
1.	1.
2.	2.
3.	3.
4.	4.

TRIGGERS AND CRAVINGS PRETEND SITUATIONS

1. You are at a party with your friends and someone passes you a joint (dagga). You don't feel like smoking it right now. What would you do? Is there another way/healthier way that you could handle this situation?

_____
_____
_____

_____

2. You have had a really hard day. You got an "F" (failed) on your test, got into a fight with your best friend and you are really frustrated. How would you have handled this situation in the past? What can you do now instead of using drugs or drinking?

_____
_____
_____
_____

3. You have a big presentation in front of the whole class tomorrow. You are really nervous and are having a hard time falling asleep. What have you done in the past to stop feeling so nervous ? What else could you do?

_____
_____
_____
_____

4. You are with your friends at the shopping centre/mall. They say that they are going to go to the shop and steal something (like CDs, DVDs, sweets, cellphones) and you should also to be part of the group. You don't want to get into trouble. How have you handled this situation in the past? What could you do now?

_____
_____
_____
_____

5. You are at school during break time, your friends say that they want to jump the fence to go and drink instead of attending classes this afternoon and want you to go with them. How have you handled such a situation in the past? What could you do now if faced with this situation so that you don't skip school?

_____
_____
_____
_____

READY TO CHANGE WORKSHEET – I

Here is a scale that will help us to determine how ready you are to change your use of alcohol and/or drugs behaviours. First, circle the number on the scale that indicates how you feel about changing your drug use right now.

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

Not ready **Somewhat read** **Very Ready**

Next, circle the number on the scale that indicates how you feel about changing your problem behaviors (e.g. skipping school, fighting) right now.

1	2	3	4	5	6	7	8	9	10

Not ready **Somewhat read** **Very Ready**

ESTABLISH GOALS WORKSHEET - I

In the space below, write down some healthy goals that you will work on during the next week, for your **drug or alcohol use**. Write this goal down below:

Alcohol and Drug Use GOAL: _____

What steps will you take to reach your goal?

1. _____
2. _____
3. _____

What might get in the way of trying to reach this goal?

1. _____
2. _____
3. _____

Where does this leave us now? What can you do to prevent these obstacles?

1. _____
2. _____
3. _____

In the space below, write down some healthy goals that you will work on during the next week, for your **problem behaviour .** Write this goal down below:

Problem Behaviour GOAL: _____

What steps will you take to reach your goal.

1. _____
2. _____
3. _____

What might get in the way of trying to reach this goals?

1. _____
2. _____
3. _____

Where does this leave us now? What can you do to prevent these obstacles?

1. _____
2. _____
3. _____

Are there any behaviours that you are not sure about changing in the next week, but want to keep track of?

HOMEWORK: READ BEFORE NEXT WEEK

ADVANTAGES OF NOT USING DRUGS/ALCOHOL

- Keep your head clear
- Better relationship with family and others
- Feel better physically
- Save money
- Would not have to hide anymore
- Feel better about yourself
- Think more clearly
- More time to enjoy hobbies, sports, etc.
- Better able to control moods and feelings
- Good for my weight (less calories)
- Don't have to worry about making a fool of yourself at parties
- Don't wake up wondering what happened the night before
- No more hangovers/"babbelas"
- Feel good about yourself for saying no to using drugs/drinking
- Wouldn't have a bad reputation
- Wouldn't regret things
- Health reasons
- Improved communication skills – not so snappy
- Better sleep
- Not so worried about others knowing
- More time for yourself and your family and friends
- Able to plan for your future more clearly
- More time for school and homework

ADVANTAGES OF NOT PARTICIPATING IN PROBLEM BEHAVIOURS (e.g. fighting, skipping school, stealing, carrying weapons to school)

- Better relationship with family
- Get better marks at school
- Have a better relationship with teachers
- Not so worried about suspension or expulsion from school
- Don't have to worry about getting into trouble with the police
- Less chance of getting hurt in a fight or hurting someone else
- Learn different ways to solve problems instead of fighting
- Feel more in control of behaviours
- Make new friends who do not participate in behaviours that can get them into trouble at school and with the law
- Have more time to do other activities during free time, like sports

SESSION 2

Welcome back! Let's start today by revisiting your goals.

Let us look at the goals that you set out to achieve last week (go to page 22 of the intervention booklet).

For alcohol and drug use goal: What did you do to reach this goal?

_____

_____

What (if anything) got in the way/

_____

_____

What was it like changing your behavior?

_____

_____

For alcohol and drug use goal: What did you do to reach this goal?

_____

_____

What (if anything) got in the way?

_____

_____

What was it like changing your behavior?

_____

_____

PEER PRESSURE AND REFUSAL TECHNIQUES

These are some alternatives that you can use when dealing with pressure that you might face with your friends around alcohol and drugs, or problem behaviours.
Tell me what you think about the following ways to refuse effectively.

- "Not now, I'm not ready."
- Just say "no thank you" and leave it at that.
- Give a reason or excuse (e.g., "No thanks, I have a test/big match tomorrow").
- Broken record – keeping saying "no" over and over again.
- Walk away –without getting angry-ignore the person and the situation.
- Avoid the situation – if you know there will be drugs/alcohol at the party don't go; avoid friends who skip school, get into fights, etc.
- Change the subject – start talking about something else.
- Strength in numbers – be with friends that you can trust and who don't use drugs or drink.
- Use humour – make a joke of the situation (e.g. Drugs kill brain cells and I need all of mine for the Maths test).
- Use your health as an excuse – (e.g., "I'm allergic to smoke", "I have asthma", "I can't join in the fight because I hurt my back playing sports").
- Reverse the pressure - (e.g., "If you want a beer so badly get one yourself, if you want that to graffiti that building, you do it then").
- Be honest- tell them you are not into it (e.g., "It's just not my thing").

- Suggest an alternative – try something else to do.

1. Have you tried any of these techniques?
2. What do you think it would be like to use some of these?
3. Which ones would work for you?

PROBLEM SOLVING AND PEER PRESSURE

There is a 5-step approach to help you make better decisions

1. STOP (don't say anything)
2. THINK (about your options)
3. CHOOSE (one of the options)
4. ACT (act on the chosen option)
5. EVALUATE (how did it go?)

SOCIAL SUPPORT WORKSHEET

We are now going to look at people that you have in your life that you can talk to and that you trust. Answer the following questions to the best of your ability

1. Who do you think may be able to offer you support in your life?

_____
_____
_____

Suggestions:

- Think of people who have been helpful to you in the past such as friends, family members or other people that you know.
- Find people who are not biased. Those who will not pick sides.
- If you can't think of people who can be of help to you now, think of those who may be helpful later on.

2. Think of ways that these supportive people can help you. List at least three

_____
_____
_____
_____

3. Name someone that you support ? How do you support them.

_____
_____
_____
_____

READY TO CHANGE WORKSHEET - II

Here is the same scale that you have seen before in Session 1. This will help us to figure out how ready you are now to change your use or alcohol and/or drugs. Circle a number on the scale that indicates how you feel about this today.

1	2	3	4	5	6	7	8	9	10

Not ready **Somewhat read** **Very Ready**

Next, circle the number on the scale that indicates how you feel about changing your problem behaviors (e.g. skipping school, fighting) today.

1	2	3	4	5	6	7	8	9	10

Not ready **Somewhat read** **Very Ready**

1. Are these scores higher or lower than your scores last week?
   _____
   _____
2. Why have you chosen these scores this week?
   _____
   _____

ESTABLISH GOALS WORKSHEET - II

Looking forward, in the space below, write down some healthy goals that you will work on in the future for your **drug or alcohol use**. Write this goal down below:

Alcohol and Drug Use GOAL: _____

What steps will you take to reach your goal.

1. _____
2. _____
3. _____

What might get in the way of trying to reach this goal?

1. _____
2. _____
3. _____

Where does this leave us now? What can you do to prevent these obstacles?

1. _____
2. _____
3. _____

In the space below, write down some healthy goals that you will work on during the next week, for your **problem behaviour .** Write this goal down below:

Problem Behaviour GOAL: _____

What steps will you take to reach your goal.

1. _____
2. _____
3. _____

What might get in the way of trying to reach this goal?

1. _____
2. _____
3. _____

Where does this leave us now? What can you do to prevent these obstacles?

1. _____
2. _____
3. _____

Are there any behaviours that you are not sure about changing in the next week, but want to keep track of?

_____

_____

RESOURCES FOR YOU

RAWEL (Ravensmead Welfare Society)……..021 931 7676

Tehilla Community Collaborative…….021 933-0990

Western Cape Rehabilitation Centre.....021 8433 200

Cape Town Drug Counselling Centre (CTDCC):

- Observatory..... 021 447 8026
- Mitchell's Plain..... 021 391 0216

De Novo.....021 988 1138 /1139

Delft South Matrix……...021 955 9200

SANCA..... 021 945 4080

Safe Schools..... 0800 45 46 47

FAMSA (Elsies River/Tygerberg).....021 946 4744

NICRO..... 021 462 0017

Chrysalis Academy..... 021 712 8934

Appendix T: Revised Teen Intervene Manual

Brief Intervention for Adolescent Alcohol and Drug Use

Manual

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Center for Adolescent Substance Abuse Research
University of Minnesota, 2006

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SECTION I

USER INFORMATION
&
DEVELOPMENT OF BRIEF INTERVENTION

Brief Cognitive-Behavioral Intervention Overview

BCBI Module	# of Sessions	Primary Treatment Objectives
Rational-Emotive Curriculum	1	1. Identify activating events for drug use a. attending a party where most adolescents use alcohol b. using alcohol or drugs to cope with negative emotions 2. Examine irrational beliefs underlying pros and cons to activating events a. all adolescents use drugs (false perception) b. fun parties always involve drugs (false perception) 3. Develop list of alternate beliefs that promote abstinence a. many adolescents have fun at parties without using drugs b. activities can be rewarding without having alcohol/drug involvement
Problem Solving Curriculum	1	1. Discuss rationale for problem-solving skill development 2. Define problem-solving components 3. Apply problem-solving process to develop risk reduction coping skills to: a. identify high-risk situations b. resist peer pressure and handle negative emotions c. generate healthy alternatives to using drugs or alcohol 4. Apply problem-solving process to develop positive coping skills for: a. effective communication b. prosocial peer and family relationships c. academic success

Parent Training	1	1. Discuss rationale for BCBI for child 2. Develop skills to encourage effective parenting behaviors a. disciplining attitudes and behaviors b. house rules c. rewards and enforcement 3. Develop skills for supporting parenting behaviors a. family solidarity b. emotional closeness c. providing developmentally appropriate advice 4. Apply parenting skills to home situations 5. Examine personal attitudes and behaviors regarding alcohol and other drug use

BRIEF INTERVENTION OVERVIEW

The Brief Intervention approach addressed in this manual is based on five premises regarding adolescent substance abuse. First, the gap between treatment need and treatment availability appears to be significantly increasing among adolescents, particularly those who present with mild or moderate substance use behaviors. Low-end severe cases are estimated to represent about 30% of adolescents who present for a drug abuse evaluation in the Twin Cities (Winters, 1999). Second, this gap in service access is in part the result of tightening treatment eligibility criteria by cost-conscious third-party payers. Similarly, lower cost treatment options for less-severe adolescent drug abusers are potentially attractive to cost-conscious manage care systems. Fourth, with some exceptions, brief and relatively inexpensive interventions (i.e. 3 - 4 sessions) have been shown to be as effective as stand-alone therapies for *adult* substance abusers (see Bien et al., 1993; Center for Substance Abuse Treatment, 2000), and early pilot work with young adults are promising. Fifth, brief interventions are developmentally fitting given that (i) many drug-abusing youth are not "career" drug abusers and thus not amenable to disease-oriented treatment approaches, and (ii) developmentally, young people are likely to be more receptive to self-guided behavior change strategies, a cornerstone of brief interventions (Miller & Sanchez, 1994).

This manual describes a 3-session (each session lasting approximately one hour) individual therapy model for use with teenagers (12-19 years old) who are suspected of experiencing mild or moderate problems associated with alcohol or other drug use. Sessions 1 and 2 involve individual counseling with the adolescent; Session 3 involves an individual counseling session with the parent or guardian of the teenager. It is recommended that the three sessions be scheduled such that there is a 10-day interval between Sessions 1 and 2, and a 10-day interval between Sessions 2 and 3.

USERS OF BRIEF INTERVENTION

This brief intervention is designed for trained professionals, including teachers, school counselors, social workers, psychologists and other youth-serving professionals who are working with drug-abusing teenagers. The techniques presented in this manual are kept simple and concise so that teachers, school counselors, social workers, and other professionals can take advantage of these methods. It is important that the person initiating the intervention be familiar with basic counseling skills, the theories and practices involved, and a basic understanding of the etiology, course and treatment of adolescent alcohol and other drug addiction. This includes knowledge of cognitive-behavioral therapy, motivational interviewing, and the stages of change model. Preferably, users of brief intervention have a certified degree in addiction counseling or a license in a related field of behavioral science.

Knowledge about the various drugs and their effects is crucial to implementing this type of intervention. The therapist must pay attention to the physical symptoms and emotional behavioral effects of substance use and abuse. Clarification may be needed to help the adolescents recognize their possible misconceptions about using drugs and their effects. Drug education materials and resources are provided in the appendix of this manual.

CLIENTS FOR WHOM BRIEF INTERVENTION IS INTENDED

The brief intervention model has been developed for application with teenagers that display the early stages of drug use problems (see Figure 1). That is, the intervention is intended for teenagers who are exhibiting mild or moderate problems associated with alcohol or other drug use. Such early-stage users often meet formal criteria for a substance abuse disorder and show harmful or hazardous consequences of their drug use. For example, the youth may be experiencing problems at school resulting from drug use or is getting into arguments with his or her parents and friends as a result of drug use.

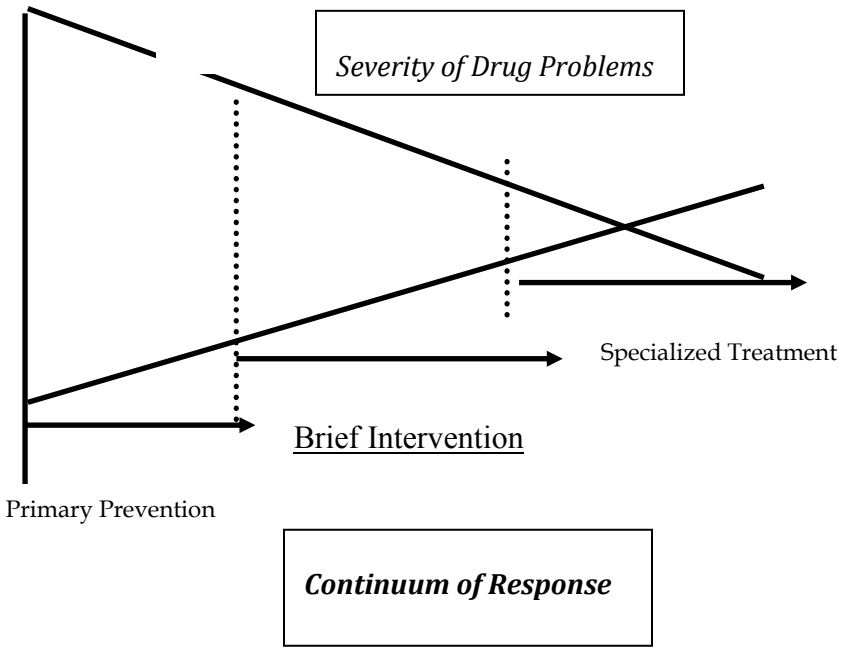
Assessments are used prior to the intervention to screen for individuals who would be better suited for other more extensive or specific treatment methods. The U.S. Department of Health and Human Services has provided some criteria for determining the appropriateness of a brief intervention (Center for Substance Abuse Treatment, 1999).

The criteria below can assist with identifying participants who are <u>not appropriate for a brief intervention</u>:

- Previous treatment failure
- Serious drug dependency
- Severe psychoses
- Hazardous intoxication
- Significant withdrawal symptoms

This brief intervention will focus on drug abusing adolescents (ages 12- to 19- years old) whose substance use ranges from mild to moderate levels. It is not intended for individuals who are in crisis, or those who require hospitalization for medical or psychiatric circumstances.

Figure 1



***Adapted from Broadening the Base of Alcohol Treatment, Institute of Medicine, 1990**

Figure 1(above) represents a model for exploring how a continuum of care can be applied across a variety of drug use problems. The range of drug use problems is indicated on the top; responses to these problems are illustrated on the bottom. In general, specialized treatments, such as intensive outpatient and residential treatment, are appropriate referrals for youth with severe drug use problems, such as a substance dependence disorder, whereas brief interventions are viewed as an appropriate response for mild-to-moderate users, that is, youth with an substance abuse disorder.

POTENTIAL SETTING

Schools

Brief intervention is appropriate for inclusion in school-based chemical health programs that wish to add more services to supplement extant prevention and education programs. The procedures are a suitable response for students with a mild or moderate drug abuse problem. In a recent study by D'Amico and Fromme (2000), a group of high school students were given a school-based brief intervention in comparison to a group who received the traditional Drug Abuse Resistance Education (DARE) curriculum. Students who had participated in the brief intervention had considerably larger reductions in the frequency of alcohol consumption and drug use versus those who participated in only the DARE program (D'Amico & Fromme, 2000).

Juvenile Justice

Alcohol and drug abuse is a common factor among adolescent offenders and yet treatment for these problems is not widely available. Thus, a brief intervention, with its focus on reducing resistance to change and increasing participant engagement, can be a valuable tool in this setting. Research has indicated that participants in brief intervention programs have reduced overall criminal behaviors (Hubbard, Craddock, Flynn, Anderson, & Ethridge, 1997).

Mental Health

Several adolescent studies indicate a strong co-association between psychiatric disorders and substance abuse (Clark & Bukstein, 1998). Brief interventions for substance abuse during mental health treatment are valuable because such treatments are focused and can easily be integrated into a general mental health regimen for the client.

Waiting Lists

Adolescents who are on any waiting lists for intensive treatment may be suitable candidates for brief intervention. In this light, brief intervention provides a therapeutic bridge for the client as he or she awaits more intensive treatment. The brief intervention therapist can begin the process of increasing the client's readiness to change and awareness as to benefits of reducing or stopping drug use.

WHY USE BRIEF INTERVENTION FOR DRUG ABUSING YOUTH?

The development of effective, cost-efficient, and time-efficient interventions for drug abusing adolescents is important, yet an under-studied priority in the health care delivery field. Pressures for shorter forms of drug abuse treatment are emerging from several sources (U.S. Department of Health and Human Services, 1999c). Examples of sources include: historical developments in the field that encourage the use of such approaches within a comprehensive, community-based continuum of care for a broad range of substance use problems; cost containment policies in the

managed health care sector; and the expansion of community-based detection systems, such as in-school health clinics.

Research has indicated that brief interventions can be effective when treating adult alcoholics (see reviews by Bien et. al., 1993; U.S. Department of Health and Human Services, 1999a), and with young substance abusers (Breslin et al., 2002; Monti et al., 2001). Whereas brief interventions have many forms and vary in length (ranging from a one-time 10-minute session to several one-hour sessions), the approach described here is organized around a 3-session model that integrates developmentally adjusted components of motivational interviewing, cognitive-behavioral therapy and stages of change theory. Key behavior change features of the model include the adolescent taking an active role in determining therapy goals, personalizing feedback to the client in the form of identifying costs and benefits of their substance use, and establishing specific action steps that will facilitate the change process.

BACKGROUND

Why do adolescents use drugs?

The criteria for adolescent drug use are mixed. There is no easy answer. There are several factors to consider including physiological, psychological, and sociological influences. Physiological influences can be anything from a family history of alcoholism and/or substance abuse to mental health disorders. Psychological factors can include stress, inadequate social skills, negative affect, personality and self-image. Sociological influences can range from family and peer interactions to ethnic background, neighborhood, and religion. There are so many different causes that there is no distinct answer for this question. Tarter and Schneider (1976) have provided fourteen variables that affect one's decision to start, stop, and continue to use alcohol, (Lawson, Peterson, & Lawson, 1983).

Some of these variables include:

- Childhood exposure to alcohol and/or drugs
- Quantity deemed appropriate or excessive by the family
- Family drinking customs and attitude about intoxication
- Activities associated with drinking
- Social rewards and punishments for drinking, etc.

Common behavioral characteristics of adolescents under the influence may include:

- Impulsiveness
- Aggressiveness
- Gratification seeking

- Low motivation for achievement
- Psychopathology

Some additional theories regarding the causes of adolescent drug use are because they are readily available, they are a quick and inexpensive method towards feeling good, to gain acceptance from peers, or as a coping mechanism to relieve the symptoms of depression, tension, and pressure (Beschner & Friedman, 1979). Environmental factors such as a stressful event (e.g. death, illness, or injury) can also trigger this behavior. Segal, Cromer, Stevens, & Wasserman (1982) discovered three main objectives for drug use among adjudicated adolescents. These are:

1. To expand awareness
2. Drug effect (to get "high")
3. To increase activity and satisfy curiosity

In conclusion, one cannot discuss the causes of adolescent drug use without touching upon the developmental transition of adolescence in general. Puberty, cognitive development, and identity development are a few of the hurdles that adolescents must face in their path towards adulthood. An increase in health risks, including substance disorders, is a common corollary of this transitional period.

Who is at risk for developing a substance abuse problem?

Deviations of temperament in early childhood have indicated a risk for substance abuse (Galanter & Kleber, 1999). The most common characteristics associated with this deviation are: irritability, impulsive behaviors, reduced attention span, aggressive behaviors, and those who are "emotional" are all considered at risk.

Environmental factors also contribute to the development of substance abuse as well. Stressful events, lack of parental support and supervision, and deviant peer groups all play a supportive role. Social and cultural norms, socioeconomic factors, neighborhood, and lack of judicial enforcement can be included as risk factors.

Peck (1983) stated that if the adolescent has friends who use marijuana, 92% used it as well. If only a few friends were users, 66% did not use marijuana. It stands to reason that parents, teachers and

other people involved with these young people need to pay close attention to daily activities and associated peers as a result of this research.

What is the difference between drug use, abuse and dependence?

In defining these terms it is important to know that, with regard to adolescents, this topic is highly controversial. Some believe that any substance use by an adolescent is abuse since alcohol is not legal for use until they have reached the legal drinking age. A traditional definition of abuse is the use of psychoactive substances to cause a boost in the person's exposure to damaging and dangerous consequences. This definition does not specifically apply to adolescents and does not permit those who merely experiment with substances and then never use again. The diagnostic manual of the American Psychiatric Association (DSM-IV; 1994) considers abuse to be a residual disorder of dependence.

Lawson and Lawson (1992) offer a list of signs to indicate drug abuse among adolescents. Some of these signs include:

- A sudden change in the child's peer group
- Experiencing significant highs and lows in their energy level and behavior
- A strong defiance towards rules and regulations
- Excessive sleeping
- Excessive excuses for misbehavior(s)
- Poor hygiene
- Self isolation
- A drastic change in weight
- Withdrawal from activities which were formerly enjoyed
- Defensiveness
- Coming home under the influence
- Short fused (lack of anger management skills)

A few of these can be viewed as typical adolescent behavior. However it is important to recognize these signs as a signal to pay closer attention to the child and the changes in their behavior.

Additional warning signs may include:

- Trouble in school (truancy, detentions, suspensions, & failing grades)
- Poor social skills
- Low self-esteem

- Low self-efficacy

For the purpose of this intervention, use is not considered abuse until it has emerged beyond the initial experimental stages, becomes more frequent, and has incurred some consequences (positive or negative).

Substance dependence is generally considered a more severe level of substance use, and it refers to an incessant need or drive to continue to seek out and use substances regardless of the harsh personal and negative consequences. Youth at this level of substance use may require a more intensive treatment program to achieve abstinence, and thus are not recommended to use this brief intervention as a sole treatment experience.

What are some protective factors to prevent substance abuse?
Protective factors are people, activities, and skills that help prevent an adolescent from using alcohol or drugs. The more protective factors a person has, the more positive their outcome will be. All people have the ability to lead a healthy life style that does not include substance abuse. Youth who have a strong sense of self, a supportive family, and non-using peers generally fare better with the risk of developing a substance abuse problem. The following list details several protective factors for adolescents.

- Parents/guardians whose parenting style represents a more authoritative approach
- A peer group or best friend who does not use
- Positive role models (i.e. coaches, teachers, clergy, extended family)
- A positive self-image and self-esteem
- An affiliation with one's school (i.e. band, team sports, clubs)
- Academic competence and success
- Having hobbies or other positive activities outside of school
- Being resilient in cases of high-risk, stress, or traumatic events

A resilient adolescent is one who can spring back in the face of adversity. Resiliency is a strength that supports the young adult in maintaining their sobriety during difficult and pressuring situations.

GOALS AND OBJECTIVES

Abstinence is usually the long-term goal of drug treatment. However, to start in motion the process of abstinence, it stands to reason that harm reduction is a logical early-stage goal of a brief intervention. Any behavior change that reduces harm is a positive result. By taking on a more flexible approach toward goal attainment, adolescent clients may be more receptive to the change process.

Harm reduction goals may include:

- A reduction in the frequency and/or intensity of the usage
- A reduction in driving under the influence
- A reduction of use before or during responsibilities (i.e. no use before or during school or work)
- Avoid use of new or unfamiliar substances

The brief intervention model also emphasizes that behavior change goals need to be individualized. This feature recognizes the heterogeneity of adolescent drug involvement. Each young person has their own reasons for substance use, and they may differ greatly in terms of willingness to change and treatment goals. By using individualized goals and personalized feedback, the treatment can be more directly focused for each adolescent's specific needs.

A variety of techniques are integrated into the model in order to establish behavior change goals with the adolescent. One strategy is to engage the adolescent to discuss both the pros and cons of drug use. This method helps the individual recognize that while drug use may have short-term personal benefits, drug use can also affect school performance, interfere with peer and family relations, and increase many health risks.

The therapist is instructed to be non-judgmental, non-labeling, and non-confrontational. Restated, the therapist's job is to act as a teacher or coach in order to help the adolescent progress through the stages of change. The intent is to move the client from low problem recognition and little willingness to change, to the "action" stage in which specific steps of positive behavior change are identified and implemented by the youth.

To summarize, brief intervention is designed to help the client:

- Understand the purpose of brief intervention
- Learn new skills that promote healthier behaviors
- Take responsibility for self change
- Set goals to enhance success in life
- Become more aware of their drug use and its impact
- Enhance personal problem solving skills
- Generate alternatives to drug use

DESIGNING THE BRIEF INTERVENTION: A DEVELOPMENTAL APPROACH

The core components of this brief intervention – stages of change theory, motivational interviewing, and cognitive-behavioral therapy - have been age-adjusted. These adjustments include simplification of concepts, heavy emphasis on client engagement, and consideration of behavior change goals likely to be relevant to an adolescent. Provided below is a summary of these components.

1) Stages of Change Model

The Stages of Change Model, as described by Prochaska, DiClemente and Norcross (1992), provides a framework to understand the motivational state of a client with respect to changing health behaviors. These five stages of change can be readily adapted to apply to a young person who may be faced with examining his or her drug use behaviors. Figure 2 (below) offers a description of how the stage of change of model can be applied to a young person (U.S. Department of Health and Human Services, 1999b).

It stands to reason that many adolescents in therapy are likely in the pre-contemplation or the contemplation stage (see figure 2). The therapist should recognize that this status need not be a barrier to change. Rather the therapist should focus on ways to help the young person progress to the next stage. One should not always assume that a teenager who is in the precontemplation or contemplation stage is at a therapeutic dead end. Thus, the therapist should consider the client's ambivalence about change as normal and not necessarily stable.

Figure 2. Stages of Change Model

The Stages of Change Model		
Stage	**Example**	**Response**
Pre-contemplation. The teenager has no intention of changing their behavior anytime soon, regardless of possible negative consequences.	An alcohol-using youth who limits his or her drinking to social situations and has experienced only minimal alcohol-related consequences.	Provide information about the connection between possible problems and consequences connected with continued alcohol use. Include information about the harmful effects of alcohol on judgment, driving skills, etc.
Contemplation. The youth has begun to recognize some negative consequences related to their drug abuse. Change has not been affirmed or committed.	A teenager who has several negative consequences as a result of their use. The individual understands some of dangers of using but has not made a decision to cut-down or stop using.	Examine indecisiveness by helping the young person recognize the costs of their drug use.
Preparation. The adolescent has decided to change their drug-using behavior and has made preparations for this change.	The teenager has decided to reduce or stop using and makes a commitment to get help with this choice.	Improvement of the intentions towards change is needed. A brief intervention can be useful in providing options for change.
Action. The adolescent puts forth the effort to continue a plan for change. Some signs of progress are observed in terms of attitude and behavior.	The youth receives counseling or therapy. Thoughts of continued use may still be present so relapse prevention is important.	Develop and maintain a plan of action. Brief interventions can be used to support positive change, prevent relapse, and to connect the adolescent with recovery-supporting resources.
Maintenance. New, healthier behaviors are in place. Long-term objectives are being considered and planned.	A teenager who is receiving counseling or self-help on a regular basis, has found a sponsor, made new sober friends, and found replacement activities that revolve around sobriety.	Prevention of a relapse is the main objective. A brief intervention can be used to help provide encouragement to maintain sobriety.

2) Cognitive-behavioral Therapy

Cognitive-behavioral therapy (CBT) is a therapeutic technique used to change one's perceptions, thoughts, and feelings about his or her behavior and to increase a person's awareness as to how social experiences affect the way a person acts. CBT is based on the principles of the social learning theory; it focuses on the importance of overcoming skill deficits and increasing the client's existing coping skills by providing a means to obtaining social support.

The "ABC" principles of CBT are included in the brief intervention in order to facilitate the change process. The ABC model refers to an **A**ntecedent that is responded to by various **B**ehaviors or **B**eliefs, which, in turn, is followed by the **C**onsequences. By applying specific therapeutic steps outlined in the manual, such as assessing high-risk situations and identifying errors in thinking that may contribute to bad decisions, the therapist helps the young person choose attitudes and behaviors that are a healthier alternative to drug use behaviors.

Motivational Interviewing

Motivational interviewing, or motivational enhancement, is a therapeutic technique designed to enhance an individual's motivation to change a specified behavior. The curriculum for the brief intervention model has incorporated many features of motivational interviewing.

Miller and Rollnick (1991) have identified key elements that are important to the successful application of motivational interviewing. Interventions that contain even some of these elements have been proven effective in instigating change and reducing drug use (Bien et al., 1993). These elements are:

- Personalizing feedback about the client's problems and willingness to change
- Emphasizing the importance that change is the client's responsibility
- Providing specific and action-oriented recommendations on how to change, including a list of alternative behaviors
- Conducting oneself as an empathetic therapist
- Encouraging self-efficacy or optimism in the client

Each of these central elements of effective motivational interviewing is described below.

Personalized Feedback

Personalized feedback should be offered in a way that shows respect as well as cultural and individual sensitivity. The therapist who maintains a non-confrontational and non-labeling approach will facilitate this process. Feedback is not to be used to "prove" that the adolescent has a drug use problem, rather it is to assist the young person to recognize that change is necessary. In the brief intervention model, the client completes various assessment and worksheets to encourage the feedback process.

Participant's Responsibility

The model emphasizes the importance that the adolescent is ultimately responsible for choosing what to do about his or her drug use behaviors. Thus, the therapist's goals are not forced upon the client. In this light, the therapist offers information, provides guidance and suggestions, and seeks a

commitment from the client about what changes he or she will make. For example, in Section II of the manual, one of the initial statements from the therapist to the client is this: "I am not going to tell you what to do; only you can decide what you will do. But I would like to find out what you think about using drugs and/or alcohol and maybe see if together we can come up with some ways to avoid problems in the future. You are the only one who will decide what happens with your use of drugs and/or alcohol. If you choose, you can continue using the way that you have been, or you can make a change. The choice is yours."

When the client is permitted to make his or her own choices about change, several positive expectations for change are set in motion, including the client recognizing that change is primarily his or her responsibility, and if change occurs, self-efficacy is enhanced.

Recommendations and Alternatives for Change

Recommendations for change within the brief intervention model are offered as advice to the client, not as rigid prescriptions of change that reflect the therapist's philosophy. Of course, the therapist can ask the client if he of she is interested in hearing the therapist's suggestions, but such information should be communicated in a non-dogmatic manner.

A list of alternative behaviors to drug use is provided in the manual. The idea is to offer the adolescent a variety of choices that can replace former patterns of behavior in specific situations. For example, an exercise is described to help the client think of specific alternatives to using alcohol or other drugs when faced with a trigger, such as boredom or anxiety.

The decisional balance exercise is a primary technique described in the model to assist with the process of establishing specific goals. This exercise involves engaging the client to examine the pros and cons of one's substance use. It is from the con list that the therapist can begin the process of developing with the client specific action goals for change.

Therapist Empathy

Reflective listening skills are an important part of motivational interviewing. The therapist is encouraged to create a safe environment that allows the young person to feel comfortable talking about personal matters. Statements such as, "I understand what you are saying and I am not going to judge you on this" or "What do you see as the next step for yourself?" are effective empathetic statements.

Self-efficacy Skills

Self-efficacy refers to the feeling of self-accomplishment. The change process is enhanced when clients feel that self-improvement is based on their accomplishments. The brief intervention model incorporates several features that encourage client self-efficacy, such as having the therapist acknowledging positive change – no matter how small- and reminding the client that the therapy goals are the client's responsibility.

CAUTIONS WHEN USING BRIEF INTERVENTION

As in any counseling setting with a young person, it is important that the adolescent client be fully advised of mandated reporting laws; for example, if he or she discloses being a victim of physical or sexual abuse, or reports that he or she may harm himself or herself, the therapist is required to report such information to the proper authorities.

The therapist is also advised to obtain written consent from the parent prior to implementing the brief intervention when working with teenagers younger than 18 years old. The consent form should describe the brief intervention procedures, the goals of the counseling sessions, and that the therapist is mandated to report to proper authorities any disclosure by the youth of physical or sexual abuse.

A final caution is a reminder of the limitations of brief intervention approaches. The model described in this manual is not appropriate as a stand-alone therapy for teenagers with a substance dependence disorder. Such youth are likely to require a more intensive treatment program. Also, when abstinence is the only goal of treatment, brief intervention may not be an appropriate treatment choice. This is not to say that brief intervention cannot strive for an abstinence goal. Abstinence is an ultimate goal for nearly all drug-abusing teenagers. But brief intervention is designed so that it is appropriate for short-term goals to include risk elimination, risk reduction, and pattern normalization, in the context that abstinence is a long-term goal.

SECTION II

ADOLESCENT
SESSION ONE

ADOLESCENT SESSION 1

Preparation before session: Check what are the delinquent type behaviours the client reports at intake

INTRODUCTION

It is vital to the change process that the therapist establishes rapport with the participant at the outset of therapy. Rapport building can be accomplished by employing the use of reflective listening skills, being non-judgmental, and asking questions to help investigate the positive and negative consequences of the substance-abusing behavior.

The opening session should clarify the basic elements of the brief intervention. Monti and colleagues (2001) have identified the following components:

1. The overall purpose and content of the intervention.

2. The counselor's role, with an emphasis on what the counselor will and will not do in the sessions.

3. Limitations of confidentiality; that is, if the client shows a risk for harming oneself or others, or is being abuse by others (physically or sexually), it must be reported by the therapist.

A description of program-specific elements, such as requirements of attendance, number of sessions, etc. Why do you think you are here today? What happened?
Ice-breaking opening exercise.

The following statement illustrates how a therapist can provide these introductory elements in a non-judgmental approach:

- What I would like to do is explore your use of alcohol and other drugs with you. We are concerned about teenage drug use, and about the kinds of things that happen when young people have been using. We are also worried about other problem behaviours like skipping school, fighting, etc.

- Affirm when client mentions any of their behaviours.

- I am not going to tell you what to do; only you can decide what you will do. But I would like to find out what you think about using drugs and/or alcohol and problem behaviours and maybe see if together we can come up with some ways to avoid problems in the future. If you're interested, you can make a change, or you can continue using the way that you have been. The choice is yours. I am here to try and help you.

- Is this okay? Can we try this out?

CLIENT ASSESSMENT

At this point, pertinent background information about the client should be collected and reviewed. As a guide, a CLIENT QUESTIONNAIRE is provided in order to structure this review.

- To help us get a better idea of how we want to continue, I would like you take this short questionnaire. You can do this privately/ on your own. It will only take 5 minutes. After you are done, we will look at the results together.

Introduce the intervention booklet (e.g. here is a booklet for you to keep that we will be using in today's and next week's session. It is yours to keep, but please remember to bring it back next week).

PART II (PRQ)

- **The interventionist needs to make sure they have copies of the materials**
- **Remind the teenager to turn to page XXXX of the booklett**

Helpful Hints: Transition to the first exercise

- So now we are going to go over some positive and negative outcomes to using substances and engaging in problem behaviours.
- . Can you tell me more about your use of alcohol and other drugs?
- How old were you when you started to use?
- Was there anything going on in your life when you started to increase your use?
- What kinds of trouble, if any, have you gotten into because of your use of drugs and/or alcohol?

THE DECISIONAL BALANCE EXERCISE (Pros & Cons / Good & Bad)

To move the first session from an introductory orientation to a more focused session, the decisional balance exercise is utilized. This exercise is basically an exploration and discussion regarding the positive and negative consequences of the adolescent's substance usage. The answers to the questions being asked in this exercise are to be recorded on the PROS AND CONS WORKSHEET included in this section. Summarize the answers provided by the participant, and clarify any inconsistencies.

Introduce the next exercise: Let's turn to page XXX of the intervention booklet.

- What do you like about using drugs and/or alcohol?

Or

- What are the good things about using?
- What else? (Ask repeatedly until they have no more answers to provide)
- What don't you like as much about using drugs and/or alcohol?

Or

- What are the not-so-good things about using?
- What else? (Ask repeatedly until they have no more answers to provide)
- Which effects of using drugs or alcohol matter the most to you?

If the participant has no ideas of the effects of alcohol/drugs, ask:

- Can I share a few more effects of alcohol or drug use that other students have mentioned?
- I can imagine there must be some things you enjoy about drinking/using drugs. Can you mention a few of these?
- A number of students said when they drink, they get a hangover the next day. Does this ever happen to you?

Discuss how the adolescent envisions the new suggestions of effects – are they pros or cons? Have these effects, or similar effects, already occurred to him/her or his/her friends?

ENVISION THE FUTURE: PROS AND CONS OF CHANGING USE PATTERNS

Asking the adolescent to think about their future can sometimes be a difficult task. The objective here is to help the young person to imagine the future if use did not continue. A change in the non-use direction may result in reduced penalties, consequences, and hassles from family and friends. The adolescent may gain back some privileges and freedoms that have been taken away as a consequence of their substance use behavior. Explain that they can shed their reputation as a "druggie," "drunk" or a "loser," and that the change will increase their self-respect.

Record the participant's answers on the lower half of the PROS AND CONS WORKSHEET. (This can also be linked to goals identified at the end of session 1. Raw material can be reframed for goal setting)

- What do you think will happen if you continue to use the same way?
- By changing your use of drugs, you benefit from……
- What do you think would be the good things that would happen if you stopped using so much?

If the participant leaves out the major consequences if use were to continue, ask:

- May I tell you some of my own concerns as well?

If yes, discuss possible consequences that the client may face based on what you have learned from prior discussions. Consequences might be getting arrested for a DUI/DWI, losing your driver's license, or placed on probation.

If the client leaves out some major benefits associated with discontinuing or reducing use, ask:

- May I suggest one or two more?

If yes, organize your discussion around benefits that might occur based on prior discussions. For example, the benefits of discontinuing may be to regain privileges, or regain respect from his or her parents.

BRINGING FRIENDS AND FAMILY INTO THE DISCUSSION (Only complete this section if not enough information was provided before)

It is recommended that the discussion of the pros and cons of use be extended to include additional questions regarding the attitudes of family and friends toward the client's drug use:

- What do your friends think about your using?
- How does this affect your decisions about using?
- What do your parents think about your using?
- How do their attitudes affect your decisions about using?

Summarize these answers on the PROS AND CONS WORKSHEET and share them with the client. Discuss answers. Clarify any inconsistencies and answers provided by the youth.

PROS AND CONS WORKSHEET

(Interventionist to fill and keep own copy)

_____ **Date:**__

In the space below, write down some of the positive reasons (reasons why you continue) for you continuing to drink alcohol or use other than drugs and engaging in problem behavior (e.g. skipping school, damaging property, fighting, carrying weapons to school, stealing). Be specific.

1. The pros of my using substances are:

A. _____

B. _____

C. _____

D. _____

In the space below, write down some of the negative reasons (reasons why you may not continue) for you continuing to drink alcohol or use other drugs and take part in problem behavior.

2. The cons of my using substances are:

A. _____

B. _____

C. _____

D. _____

3. The pros of my engaging in problem behaviours are:

A. _____

B. _____

C. _____

D.

In the space below, write down some of the negative reasons (reasons why you may not continue) for you continuing to take part in problem behavior.

_____

4. The cons of my engaging in problem behaviours are:

A. _____

B. _____

C. _____

D. _____

My friends think: _____

My parents/guardians think: _____

My siblings/extended family think: _____

The attitudes of all these people affect my decision about using by: _____

Now we have looked at why you continue to use substances and continue to act out, so lets look at things that might remind you of using alcohol and other drugs, or engage in other problem behaviours.

HOW TO COPE WITH CRAVINGS AND TRIGGERS

As the adolescent begins to make a change there will be difficulties along the way. These blockades to drug reduction or abstinence occur most frequently in the beginning of the stages of change. However these obstacles can last for extended periods of time over the course of time. It is important that the adolescent understand that continued feelings of craving to use drugs may be a normal part of the change process, and that there are specific strategies to cope in these situations. To begin, it is important for the young person to discover what may trigger continued drug use. Then the client is encouraged to learn skills for how to deal with these situations with non-drug use responses. The goal of this activity is to encourage the adolescent to engage in rewarding activities that do not promote or activate drug use behaviors. As the interventionist, you need to Describe/depict cravings and triggers to the client.
Remind them to look attheir intervention booklet.

Review possible drug involvement triggers with the young person. Provided below is a list of triggers often cited by young people.

Triggers can be many things. Lets go through the list together

Can you think of any others? Please tell me about them.

Write his or her responses on the TRIGGERS AND CRAVINGS WORKSHEET

(Adapted from U.S. Department of Health and Human Services, National Institute on Alcohol Abuse and Alcoholism, 1999a: *Cognitive-Behavioral Coping Skills Therapy Manual*.)

- Go through examples with the client.
- Get them to talk more abou it, e.g. if boredom is a trigger, when were you bored, how did alcohol/drugs help, etc.

TRIGGERS (SOMETHING THAT SETS YOU OFF WANTING TO DRINK OR USE DRUGS) AND CRAVINGS (WHEN YOU REALLY WANT OR DESIRE A DRINK OR DRUGS) WORKSHEET

Circle the reason or reasons for your own drug or alcohol use.

- **Boredom –** feeling that there is nothing else to do that is worthwhile. Some people use drugs or alcohol to make the boredom pass more quickly or to make boring activities seem more fun e.g.) doing dishes, homework.

- **Escape –** to avoid uncomfortable situations, arguments, memories, or actual physical pain e.g.) family problems, teenage issues. Some people want to escape from their pain and use drugs and/or alcohol to make themselves feel numb or to forget or for example, skip school because they may be having problems with their teachers or school work.

- **Relaxation –** to unwind and reduce tension. Some people don't know how to relax without using drugs/drinking.

- **Socialization –** involves social settings such as a party or family gathering. Many people who are shy or uncomfortable in these situations use alcohol and drugs to help to reduce this uncomfortable feeling in themselves and to help them relax in this type of situation. Also, if fighting is part of what you and your friends do when together, you may fight to feel like part of the group or fit in.

- **Improved self-image –** to make yourself look better in the eyes of others.

- **Attraction or Romance –**makes it easier for you to talk to someone they are interested in or attracted to. .

- **To hell with it –** when a person has just given up trying to reach any worthwhile goal. This is a person that feels that nothing matters and there is no reason for them to try.

- **No control –** a person who gives up trying to control his or herself. People who feel like this think that they just don't want to make any more effort to fight the urge to drink or use drugs.

Other – please describe: _____

_____

_____

Encourage the client to think carefully about the triggers of his or her drug use, and engage the adolescent in a conversation about alternative activities to assist in avoiding or dealing with triggers for use (*Things that Make You Happy* worksheet may be used here). Suggested script may include:

- It is not uncommon for people of all ages to get into some kind of habit of doing something – (e.g schoolwork, exercise, drug use). With this in mind, can you think of other activities that you used to enjoy that you no longer do, or you engage in much less often compared to when you didn't use drugs or alcohol?
- What were the pros and cons of those other activities?
- One thing we've learned through working with students is that people use alcohol/drugs because they serve a purpose - for you, this purpose might be…. (mention items from PROS list above). However, when the alcohol/drugs are significantly reduced or stopped, a void/emptiness remains. Filling this with an activity or hobby that you enjoy is the key to a healthy lifestyle.
- In page XXXX of your intervention booklet thre is a list of some common activities from which some people find enjoyment (show list of *Things that Make you Happy*. Please circle which activities do you enjoy?
- Let's discuss what you have circled.
- Try to elicit more information from the teenager e.g.) you said that you like dancing, what kind of dancing do you like?
- If the teenager does not mark anything, ask "was there anything that you enjoyed doing before you started getting into trouble/using?" or "what would you like to do, but haven't been able to yet?"
- How do you think that these other activities might impact your triggers and/or cravings for drugs or alcohol?

- If they still can't find a prosocial activity, come back to this at the end of the session and ask them if it can be a goal for them to set.

Transcribe some alternate activities to help cope with triggers or cravings on the *What Sets Off Your Use worksheet*, and encourage the client to envision the pros and cons of the alternate activity versus the drug use.

- Things that may make you happy

1. Taking a long hot bath
2. Thinking about your future and what you want to do
3. Going out with a boyfriend/girlfriend who doesn't use
4. Going to a movie
5. Jogging
6. Going for a walk
7. Listening to music
8. Sitting in the sun and relaxing
9. Reading a magazine, comic or book
10. Hanging out with friends who don't use
11. Painting your nails
12. Dancing
13. Rearranging your room or cleaning
14. Cooking /learning to cook
15. Taking your dog for a walk
16. Going swimming or to the beach
17. Drawing or doodling/scribbling
18. Exercising/going to gym
19. Playing sports e.g. soccer/netball
20. Chatting or talking with a friend or relative (family)
21. Singing
22. Going rollerblading or rollerskating
23. Playing with a pet
24. Painting/drawing
25. Going on a bike (bicycle or motorbike) ride
26. Doing a puzzle or crossword
27. Going shopping
28. Playing a musical instrument
29. Making a gift for someone
30. Buying or listening to CDs
31. Watching sports on TV or going to a match
32. Buying clothes
33. Going out to dinner with friends and family
34. Working (part-time)
35. Getting your hair done or hair cut
36. Going for/having coffee or tea or a cooldrink
37. Going to hear live music/a band
38. Going for a drive
39. Watching a favourite TV show
40. Going to a park or forest
41. Completing a task (e.g. homework)

42. Writing in a diary or writing a letter
43. Spending time with a child
44. Going on a picnic
45. Meditating (relaxing through breathing exercises)
46. Playing cards of dominoes
47. Seeing or showing photos
48. Playing pool
49. Playing video games
50. Talking on the phone
51. Getting a massage
52. Going to the mall/shopping centre
53. Thinking about your good qualities
54. Going ten pin bowling
55. Social media (e.g. facebook)
56._____
57._____
58. _____

Introduction: Now that we have talked about some things that might make you think about using drugs/drinking and you have also told me about some things you enjoy doing. Let's talk about the first thing you circles and; how could an activity that is healthier be used?

- You might have to help the teenagers to work through this exercise.

WHAT SETS OFF YOUR DRUG AND/OR ALCOHOL USE WORKSHEET
HOW CAN YOU RESPOND?

Date: _____

In the first column, list the reasons/triggers of what sets off the student's use of drugs and/or alcohol. In the second column, list several alternatives to prevent or control these causes and influences.

- Trigger: Prompt for triggers. The client might need help to work through this.
- The interventionist needs to list the triggers mentioned earlier by the client.

TRIGGER	**ALTERNATIVE/OPTION**
1.	**1.**
2.	**2.**
3.	**3.**
4.	**4.**

Assist the youth in envisioning situations in which triggers or cravings may appear, then finding alternative situations or activities to modify those triggers. Suggested scenarios are listed below. If they say they don't know if that would work then the interventionist could suggest that they put it down as a possibility or discuss with the client what would work. The client could then choose a few that are relevant.

TRIGGERS AND CRAVINGS PRETEND SITUATION

1. You are at a party with your friends and someone passes you a joint. You don't feel like smoking it right now. What would you do? Is there another way/healthier way that you could handle this situation?

_____

_____

_____

_____

2. You have had a really hard day. You got an "F" on your test, you got into a fight with your best friend and you are really frustrated. How would you have handled this situation in the past? What can you do now instead of using drugs and/or drinking?

_____

_____

_____

_____

3. You have a big presentation in front of the whole class tomorrow. You are really nervous and are having a hard time falling asleep. What have you done in the past to stop feeling so nervous ? What else could you do?

_____

_____

_____

4. You are with your friends at the shopping centre/mall. They say that they are going to go to the shop and steal something (like CDs, DVDs, sweets, cellphones) and you should also to be part of the group. You don't want to get into trouble. How have you handled this situation in the past? What could you do now?

_____

_____

_____

5. You are at school during break time, your friends say that they want to jump the fence to go and drink instead of attending classes this afternoon and want you to go with them. How have you handled such a situation in the past? What could you do now if faced with this situation so that you don't skip school?

_____
_____
_____

ASSESSMENT FOR CHANGE

The session has progressed to the point where now it is time to take a "temperature reading" of the client's willingness to change.

- So far, we have discussed the pros and cons of your use, consequences of your use, how your use is affected and impacted by family and friends, triggers for use, and alternative activities. Now I'm interested in finding out how you feel about making healthy changes in you drug use at this time.

- Place a mark on the READY TO CHANGE WORKSHEET that fits how the client feels right now.

READY TO CHANGE WORKSHEET I

Here is a scale that will help us to determine how ready you are to change your use of alcohol and/or drugs. First, circle the number on the scale that indicates how you feel about changing your drug use right now.

1	2	3	4	5	6	7	8	9	10

Not ready **Somewhat ready** **Very Ready**

Next, circle the number on the scale that indicates how you feel about changing your problem behaviors (e.g. skipping school, fighting) right now.

1	2	3	4	5	6	7	8	9	10

Not ready **Somewhat ready** **Very Ready**

You have marked a _____. This means you are _____ ready to change. This number is a way of measuring how ready you are to make changes in your use.

- This indicates *(low or moderate or high*) level of interest in making changes in your alcohol/drug use. How do you feel about this?
- Ensure that you repeat this for problem behaviours too, as the client could have different levels of readiness to change.
- If the client marked 1, the interventionist could say, "By saying 1, I just want to make sure I understand you….You could also say, "let's maybe look at some reasons for substance use and problem behavior". Affirm anything better than 1 e.g., "That's great. That means you maybe can think about this when we work on your goals.
- (If low): What are some of the reasons why you do not want to change your drug use pattern? If 1, then say, "What would need to change/be different in your life for you to make changes, OR "Hopefully we can still talk about some things that we can work on in the next week, OR develop/point out a discrepancy if the client said something earlier that indicates that they are ready to change something in their behaviour. Please note: please be careful in doing this, and make sure not to do it in a way that does lead to the teenager becoming defensive.
- (If moderate or high): This is great. What are some of the reasons why you are thinking about changing your drinking/drug use or problem behavior pattern?
- Do you feel that these results from the questionnaire - Part II are consistent with the number you just provided on the 1 – 10 Ready to Change scale?

ESTABLISHING GOALS

The last significant task for Session One focuses on assisting the client to establish goals. Given the non-judgmental philosophy of the brief intervention, the counselor is encouraged to support any positive changes to which the client is willing to agree. Perhaps the goal will be as minimal as simply "to think about reducing drug use in the future." Admittedly, this goal may seem like a small gain to most, but it is important to begin the change process somewhere with a client. It comes as no surprise for professionals who have worked with many drug-abusing youth in treatment that most teenage clients do not readily choose abstinence as an immediate treatment goal. Risk reduction, use reduction, and normalization of use are meaningful improvements for the short-term. Abstinence can still be a logical long-term goal even when attaining this is preceded by non-abstinence goals. Make sure that goals are realistic and concrete.

This is the last activity for today. So we have spoken about some reasons for your using substances and engaging in problem behaviours as well as where you are in wanting to change these. Lets look at some goals for this that you can work on in the next week.

Here is a suggested script for the process of establishing goals:

- Where does this leave us now?

OR

- What do you think has to change?

- How would you like things to be different?

Elicit what the youth would like to change about their drug using behaviors

- Reflect responses and generate clearly specified goals
- Identify people who might be helpful in this regard
- Reinforce goals with statements such as:

  - That's safe
  - That would be less risky
  - Drug and other alcohol use is not essential for fun

*Possible Goal*s - Record the goals on ESTABLISH GOALS WORKSHEET.

- Self-monitoring (for the most uncertain client). Look at themes from the pros/cons activity and make general behavioural change. Ask the client to monitor or track his/her behaviour in the next week in the booklet. Explain that you want them to write down how much they drank/used drugs/engaged in problem behaviours daily.
- Abstinence
- Using less: clients should indicate how much less they use or act outRisk harm reduction: e.g.) don't fight when drinking
- Engaging in or improvement of other healthy behaviors, such as improved relationships, academic achievements, or job attainment.

If the participant cannot come up with any goals, try this exercise again in Session Two.
Unpack the goals that clients identify:only those who don't have any concrete goals should self-monitor or track their behaviour.

ESTABLISH GOALS WORKSHEET

In the space below, write down some healthy goals that you will work on during the next week, for your drug or alcohol use . Write this goal down below:GOAL: _____

What steps will you use to reach your goal.

4. _____
5. _____
6. _____

What might get in the way of trying to reach this goals?

4. _____
5. _____
6. _____

Where does this leave us now? What can you do to prevent these obstacles?

4. _____
5. _____
6. _____

In the space below, write down some healthy goals that you will work on during the next week, for your problem behaviour . Write this goal down below:

GOAL: _____

What steps will you use to reach your goal.

7. _____
8. _____
9. _____

What might get in the way of trying to reach this goals?

7. _____
8. _____
9. _____

Where does this leave us now? What can you do to prevent these obstacles?

7. _____
8. _____
9. _____

Are there any behaviours that you are not sure about changing in the next week, but want to keep track of?

_____
_____
_____
_____
_____

EXPLORING BARRIERS TO CHANGE

Of course, your client is likely to face obstacles toward achieving his or her goals.

Here are scripted questions below.

- `What might get in the way of you trying to reach these goals?`

Or

- `What might make it hard to actually change your substance using behaviors?`
- `What do you need to do to achieve these goals?`
- `Let's explore what kinds of feelings and situations that set-off your using drugs and/or alcohol.  Can you identify three situations or feelings that seem to have led you to use?`

Support self-efficacy statements provided by the adolescent.

Transcribe the answers to the bottom half of the "ESTABLISHING GOALS" WORKSHEET. Discuss with the client how each goal may be faced with a barrier and remind them of the alternative activities that they had discussed earlier in the session. Review with the student how to respond to possible obstacles accordingly.

CONCLUSION OF SESSION ONE

Review the worksheets from this session. Place an emphasis on the ESTABLISH GOALS WORKSHEET and request that the young person work on these goals prior to Session Two, and provide a copy of the goals to the client as a reminder. Ask if the adolescent has any questions as to what action steps have been agreed upon. Remind them to read through the homework handouts in the booklet on page XXXX. Set a date for Session Two and give an appointment card. Thank the participant for his or her time.

The list below of "Advantages of Not Using Drugs" may be given to the client at the conclusion of Session One. A reproducible copy of this sheet can be found in the appendix of this manual.

- Keep your head clear
- Better relationship with family
- Feel better physically
- Save money
- Would not have to hide it anymore
- Feel better about yourself
- Think more clearly
- More time to enjoy hobbies, sports, etc.
- Better able to control moods and feelings
- Good for my weight (less calories)
- Don't have to worry about making a fool of yourself at parties
- Don't wake up wondering what happened the night before
- No more hangovers
- Self-confidence from overcoming the urge to use
- Wouldn't have a bad reputation
- Wouldn't regret things
- Health reasons
- Improved communication skills – not so snappy
- Better sleep
- Not so worried about others knowing
- Improved relationships with others, including family
- More time for yourself and your family and friends
- Able to plan for your future more clearly

SECTION III

ADOLESCENT
SESSION TWO

(Guideline: Time limit for each activity should be 10 min.)

The second and final session with the adolescent should be used to:

1) Review progress made since the first session
2) Establish longer-term goals
3) Identify resources and support systems available.

REVISIT THE FIRST SESSION

ACTIVITY 1
Revisit Goals

Probe the client for any progress with the goals. Review if the client's support system was a barrier or a facilitator to the goals. Make suggestions when needed. Help the adolescent to deal with any frustrations they may have experienced in his or her effort to change their behavior. Offer support for continued application of helping techniques and strategies that were discussed in Session One, and offer new ones as appropriate. Be supportive, positive, and non-judgmental.

If the original goals appear to be too difficult or unattainable in the short run, then adjustments are in order. Also, be alert for signs of significant concern, and consider the value of referring the client to a formal mental health and/or chemical dependence evaluation.

Suggested script:

- How was your week? *(Get a general feel on how they are doing.)*
- What was it like working on your goals last week? *(Review their specific goals individually.)*

FOR EACH GOAL:

- What did you do to help achieving this goal?

- What got in the way, if anything?

- *(If struggled to meet goal)* Sometimes change is difficult; it takes a while so it's ok not to have progress yet. We can continue to work on your goals today. But well done on trying to work on them.

- (*If goal was met*) What was this change like for you?

- We'll be setting more goals at the end of today's meeting, so let's keep in mind how your experiences with these goals went.

Revisit Pros and Cons
Discuss the pros and cons from the first session and see if the client has shifted the "weight" of the pros and cons in favor of more cons relative to pros. If the client reduced use or abstained from use during the intervening period, inquire as to pros and cons were experienced by virtue of the reduced or non-use behaviors. Reinforce desired responses; emphasis that any progress was due to the client's initiative.

Suggested script:

- What was it like for you to use less (or not at all)?
- Did you think of any more advantages of not using?
- Did you think of any more disadvantages of continued use?

PROBLEM SOLVING AND PEER PRESSURE

Personal Decision-Making Skills
To facilitate progress towards the therapy goals, the adolescent client may need help and support with their decision-making skills. One of the ways to facilitate these goals is to help him or her explore their own methods of decision and the efficacy of those methods. If the client is having difficulty thinking about decision-making in regards to drug use, you may broaden the approach to include other situations – from something as simple as which show to watch on TV to something more complex like where to apply for a job. This plan may help sharpen the client's problem-solving skills when faced with personal triggers of drug use.

Script

- Frequently when people are faced with a decision, they have a general way in which they approach their response. For example, if you were at a party and were faced with the decision to have a drink/use drugs or not, what thoughts would enter your mind to influence your decision to use or not to use?
- What are the different options you have in this situation?

Discuss alternative responses and review outcomes and consequences of each.

- Some people think through a situation before they make a decision regarding their next step, while others just do what comes first or is easiest, regardless of the consequences

(i.e. act first, think later). Others may have different decision-making styles. What kind of decision-maker are you?

- How well has this method worked for you?

Reinforce that certain decision-making styles are better able to help a person to think before acting. By teaching the adolescent to stop and think before acting, it helps reinforce that they may wish to choose a healthier behavior rather than to use drugs.

Dealing with Peer Pressure (especially useful with younger adolescents)
Though many adolescents do not recognize the social pressures associated with drug use, some acknowledge a hard time refusing social pressures to use drugs without losing "face." Talk to the client about such social peer pressures, and question students who have not recognized peer pressure in regards to witnessing peer pressure or hypothetical situations of peer pressure. Have him or her describe various situations in which they were pressured by their peers or others to use drugs or if they saw others being pressured. Discuss how effective refusal techniques can be learned. Engage the client in how they might approach these social situations.

Provided below are several alternatives to saying no to using. Discuss with him or her situations in which these statements will apply. Support him or her in trying one of these alternatives to saying "no" during the next time they feel pressured by someone to use drugs. Discuss with the youth about the feasibility of each alternatives among their groups of friends (i.e., how would your friends react if you tried this method?) Try role-playing a couple of situations.

- Do you feel that you experience peer pressure? (Not only for drugs, but also other behaviors, such as sex, delinquent behavior, etc.)

- What would your friends say or do if …...? (Provide individualized example.)

- How do you react to that? Are there other ways you could also react? *(Remind student of problem-solving skills from above, and discuss refusal techniques from handout below.)*

Make certain that the adolescent understands that they must speak assertively and make eye contact while using these techniques. Reinforce that the client need not feel guilty or weak about a decision to refuse to use drugs.

Refusal Techniques

Tell me what you think about the following ways to refuse effectively.

- "Not now, I'm not ready."
- Just say "no thank you" and leave it at that.
- Give a reason or excuse (e.g., "No thanks, I have a test/big game tomorrow").
- Broken record – keeping saying "no" over and over again.
- Walk away – ignore the person and the situation.
- Avoid the situation – if you know there will be drugs/alcohol at the party don't go.
- Change the subject – start talking about something else.
- Strength in numbers – be with friends that you can trust.
- Use humor – make a joke of the situation.
- Use your health as an excuse – (e.g., "I'm allergic to smoke").
- Reverse the pressure - (e.g., "If you want a beer so badly get one yourself").
- Be honest- tell them you are not into it (e.g., "It's just not my thing").
- Suggest an alternative – try something else to do.

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

SUPPORT NETWORK

It is important for the adolescent to know that there are people in his or her life that will support his or her healthy lifestyle, including the choice to reduce or eliminate drug use. You can help the adolescent recognize the supportive people in his or her environment. Have the client answer the following questions. Then follow by having him or her complete the SOCIAL SUPPORT WORKSHEET.

- Who among the people you know – friends, family, other adults, - is there to support you? Who really cares about your health and well-being?
- Which of these people would support your choice to reduce/quit using drugs or alcohol?

- What type of support would be most helpful for you?

Share the examples below with the participant.

Is there someone you know that….

- is good at coming up with ideas and alternatives that are healthier choices (Problem-solver)?

- who listens, is supportive, and understanding (Moral supporter)?

- can help take-off some of the pressure (Load sharer)?

- can answer questions and help to find other resources and information (Information provider)?

- if all else fails, this is the person you call for help (Emergency back-up)?

SOCIAL SUPPORT WORKSHEET

Name/ID: _____ Date: _____

Answer the following questions to the best of your ability

1. Who do you think may be able to offer you support?

_____

_____

_____

Suggestions:

- Think of people who have been helpful to you in the past such as friends, family members or other people that you know.
- Find people who are not biased. Those who will not pick sides.
- If you can't think of people who can be of help to you now, think of those who may be helpful later on.

2. Think of ways that these supportive people can help you. List at least three.

_____

_____

_____

3. Name someone to whom you are supportive? Tell how you support them.

_____

_____

(Adapted from Sampl, S. and Kadden, R. (2001). Motivational Enhancement Therapy and Cognitive Behavioral Therapy for Adolescent Cannabis Users: 5 Sessions. U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment.)

PRESENT RECENT RESOURCES MATERIALS/EDUCATIONAL TOLS

Based on the information the client provides during the first session, it can be very helpful for the therapist to integrate individualized resources during this session. These resources should focus on the facts of drugs use and generally concentrate on drugs the client is using or plans to use, but can also address other concerns of the client, such as drugs a friend/family member is using or any general health concerns the youth presents, including sexual health, mental heath, academic concerns, or employment. The therapist should highlight some of the main points from each resource, and provide copies of the resources for the client to read on his or her own time *(several resources and educational tools are included in the appendix, or add your own resources/tools here).*

Suggested script:

- Based on our conversation last week, I thought I'd bring in some more information for you to review and think about. I can go through them with you now, and then you can take them and read them on your own more thoroughly or keep them for reference later. Does that sound OK?

REVISIT READY TO CHANGE

Have the client complete the READY TO CHANGE scale again. Compare the recorded score with the one from Session One. If there is a higher score chosen this time, reinforce this good news. Draw a connection between the improved readiness to change and progress that was made with the personal goals.

If there is no score change - or a drop in score - provide support that drug use habits can be difficult to tackle and that it is okay if it takes some time.

READY TO CHANGE WORKSHEET - II

Name/ID: _____ Date: _____

1. Are you seriously thinking about changing your drug and/or alcohol use within ***the next six months***?

   YES MAYBE NO

2. Are you seriously thinking about changing your drug and/or alcohol use within ***the next month***?

   YES MAYBE NO

Here is the same scale that you have seen before. This will help us to determine how ready you are now to change your use of drugs and/or alcohol. Place a number on the scale that indicates how you feel about this today.

1 2 3 4 5 6 7 8 9 10

Not ready Somewhat ready Very ready

Please circle one of the following statements that best describes you right now.

1. I don't want to quit/reduce using drugs and/or alcohol.
2. I don't really like to use drugs and/or alcohol but I don't want to stop/ cut down right now.
3. I am thinking about stopping/reducing my use of drugs and/or alcohol.
4. I have definitely decided that I want to stop/reduce using drugs and/or alcohol.
5. I have already stopped/reduced using drugs and/or alcohol.

FUTURE GOALS

Complete the "future goals" worksheet with student. Revisit goal sheet from Session 1 with the student and create revised goals that could be attainable. Discuss with the student goals for the immediate future, up to next major holiday, event, etc. (Christmas, spring break, end of school year, etc.) Also discuss goals for the longer term, 1 year from now. Write these goals out on the bottom of the "alternative to saying no" handout so the student can take them with her/him.

CLOSURE

Summarize both sessions, emphasizing the details of the client's goals for change. Review strategies to overcome barriers and encourage use of supports. Make sure to answer any questions. Congratulate the youth for maintaining commitment to the intervention. And of course, thank the client for their respectful participation.

Also, some clients will benefit from referral information. This could be in the form of instructions to call the counselor in case of concerns, or the client could be given specific contact information of an appropriate program, school counselor, or your business card for further reference.

CHAPTER IV

PARENT OR GUARDIAN SESSION

INTRODUCTION

Parents may exert an enormous influence – both positive and negative - on their child's efforts to change drug use behavior patterns. Research from both the family therapy and drug prevention fields offer a set of basic principles that serve to facilitate or encourage healthy behaviors. These principles include adequate monitoring of the whereabouts of the child, consistent disciplining, fostering a supportive interpersonal relationship with the child, and exhibiting personal behavior that communicates a healthy relationship with legal substances.

This chapter describes a separate therapy session for use with the parent(s) or guardian(s) of the adolescent client who is receiving the brief intervention. The session focuses on teaching and encouraging parent behaviors that promote healthy change in their child. It is recommended that this session be conducted after the two client sessions.

BREAKING THE ICE

Begin with some casual conversation. Review the events that led their son or daughter to the brief intervention. Discuss their view of what happened and how they feel about him or her receiving therapy. Ask open-ended questions rather than yes/no or close-ended questions.

- Thanks for coming here today and being a part of this program. One of our goals is, with parent assistance, to help adolescents make healthy choices, including the reduction of alcohol and drug use.

- Before we get started, I would like to talk for a moment about confidentiality. I want to reiterate that things you and I discuss today will not be shared with your son/daughter, their school, or anyone else.

- Likewise, I do not specifically share information that your on/daughter has shared with me.

- To start, it is my understanding that (child's name) was referred to this program because of… (*Let parent discuss their understanding of the situation.)*

- What do you hope you and your child will gain from this brief intervention?

Next, give the parent/guardian an overview of the brief intervention. Explain the goals and methods of treatment. Summarize the main ideas. Answer any questions and address any concerns they may have. Be reassuring and empathetic in your answers.

- I would like to review the goals and purpose of the brief intervention for your child. Please feel free to ask any questions or concerns you may have.

- The idea of the therapy is to collect personal information and then to use that information to help an adolescent reduce or stop their use of alcohol and other drugs. By learning about the history of drug use, it can help to individually focus the sessions.

- Each person has their own reason for using alcohol and other drugs. The brief intervention has been designed to meet these specific needs.

- Although abstinence is what we strive to attain with students, experience and research have shown that smaller, more attainable goals are more effective. Our aim is to assist your child in achieving a healthy balance interpersonally as well as throughout other aspects of life including school, family, and work.

- Do you have any questions or concerns?

- Now there are a few specific questions that I would like to ask. These will help us discuss how you can help facilitate your son/daughter's goals.

PARENT/GUARDIAN WORKSHEET

Name/ID: _____ Date: _____

I would like to start by asking a few questions about (child's name) experiences and relationships that might help us get a better feel for what we can focus on to help her/him make healthy choices. Feel free to ask any questions that you may have as we go along.

1. Can you tell me a little about your son/daughter's interests/hobbies? What are his/her strengths? What are things that are difficult for her/him. (Try to find out level of activity.) Is he/she in groups, clubs, etc.?

_____

_____

_____

2. How is (child's name) connection with school? How is his/her school performance? Have there been changes with his/her performance/connection to school? How do you feel about the friends he/she hangs out with?

_____

_____

3. Understanding that adolescence is a time of building independence from parents, does (child's name) participate in activities with the family? How would you describe the relationship you (or other members of the family) have with him/her? How satisfied are you with these relationships?

_____

_____

_____

4. Regarding (child's name) use of alcohol or other drug, what do you think has contributed to his or her use? [*Discuss factors that contribute to drug use among teens (e.g., poor school connection, friends that use, lack of involvement with activities, etc.) Use this as a segue to discuss family factors that contribute including genetic and environmental factors. Inquire about individuals in the home who may have difficulties with drug use.] If others have a history of use*, what has your child's reaction to their use been?

_____

_____

_____

5. Have you discussed with any friends or other family members about what to do about your son/daughter's using? Has there been anyone who has been supportive and/or helpful in this journey to help your child?

_____

_____

_____

6. What steps, if any, have you taken already to try to prevent or reduce your son/daughter's use? In what ways have you shown support? (*Reinforce positive steps. Give examples if needed, "do special activities together, earn privileges, etc."*)

_____

_____

7. In what ways have you tried control or discipline to prevent or reduce your son/daughter's use? (Probe for skills related to monitoring and supervision. *Offer some other suggestions if needed.*

_____

_____

FAMILY RULES

Complete the FAMILY RULES worksheet with the parent.

- The next thing I would like to talk about pertains to the attitudes or rules in your household regarding alcohol and drugs.

Discuss the answers. Support responses that indicate healthy attitudes and behaviors in the family. Probe for details when the answer is vague. Coach the parent to offer healthier alternative, if necessary.

Family Rules about Alcohol and Other Drug Use

Name/ID: _____ Date: _____

1. Studies have shown that it can helpful to include your child or children in creating your household rules or expectations about alcohol or drug. Do you have rules about this in your household? If so, would you be willing to share them with me?

_____
_____
_____

2. Sometimes these rules are assumed or unsaid among family members. How have these rules been communicated to your child/ren?

_____
_____
_____

3. I recognize that adolescence can be stressful time for parents especially when alcohol/drug use is involved. With this in mind, do you have people close to you that you can turn to for support?

If Yes, how are they supportive?

If No, what types of resources are (can) you using (use) to assist you in dealing with this problem?

_____
_____
_____
_____

(Adapted from Walking the Talk: A Program for Parents about Alcohol, Tobacco and Other Drug Use and Nonuse - A Participant Workbook. Developed by The Center for Substance Abuse Prevention, Rockville, MD, 2001).

PARENT READINESS TO HELP THEIR CHILD CHANGE

- Next, could you take a moment to complete this questionnaire. It asks you about your attitude and expectations regarding your son/daughter. We can discuss your answers when you are done.

Give the parent the PARENT (Guardian) QUESTIONNAIRE. This questionnaire should be administered as a self-report form.

Hint: Spend time reviewing the answers to these critical items: **5, 7** and **10**.

Parent (Guardian) Questionnaire

Name/ID:_____ **Date:**_____

Please answer whether you disagree or agree with these statements about your child by making a check in the appropriate blank. Your answers will be kept confidential.

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
1. As a parent/guardian, I have great concerns about my child's use of alcohol and/or drugs…..	_____	_____	_____	_____
2. I want my child to receive help for his/her alcohol and/or drug use…….	_____	_____	_____	_____
3. I want my child to quit using alcohol and/or drugs……..……	_____	_____	_____	_____
4. I want my child to reduce their usage of alcohol and/or drugs……..	_____	_____	_____	_____
5. As a parent/guardian, I am willing to do whatever is takes to stop my child from using…..	_____	_____	_____	_____
6. I believe that my child has a problem with alcohol and/or drugs……..	_____	_____	_____	_____
7. My child's use of alcohol and/or drugs is just "typical teenage behavior"…….	_____	_____	_____	_____

8. I think it's okay for my child to use alcohol and/or drugs every now and then……...

9. My alcohol and/or drug use is not a concern…

10. I tried to help my child to change his or her alcohol and/or drug use but it didn't work out…...

11. I believe my child can change his or her alcohol and/or drug use without help…….

12. I will make time to help my child with his or her alcohol and/or drug use problems……

BRAIN DEVELOPMENT

Parents/guardians have found it informative to discuss the biological impact of adolescent alcohol and drug use. Present the resources and discuss key points. Topics to discuss include:

1. The adolescent brain and the pruning process
2. Brain is not mature until age 24
3. Alcohol/drugs have a greater physiological impact on teens than on adults
4. How teens can get "hooked" quicker that adults
5. Gender differences regarding the impact of alcohol

INCREASE/DECREASE RISK FOR ALCOHOL OR DRUG PROBLEM

Show parent/guardian the Increase/Decrease Risk handout and review. If desired, place check marks next to those that apply to their family to identify level of severity. Utilize both the risk and protective items when establishing goals in the next section. For example, items parents indicate that they would like to enhance could be incorporated into a goal.

RISK AND PROTECTIVE FACTORS

What can **Increase the Risk** of an adolescent developing a drug or alcohol problem?

- **Early age of first use (age 13 or younger)**
- **Poor social coping skills (depression, anxiety, aggression, impulsivity)**
- **Feeling unloved by family; low mutual attachment with parents**
- **Ineffective parenting (supervision, monitoring, consequences, modeling)**
- **Perceived external approval of drug use (peers, family, community)**
- **Affiliation with deviant peers**
- **Having easy access to money from a job or above average disposable income**
- **Chaotic home environment**
- **Past or current drug or alcohol problems within the family**
- **Past or current family emotional, physical, or sexual abuse or neglect (especially depression)**
- **_____Other - Specific to adolescent**

What can **Reduce the Risk** of an adolescent development a drug or alcohol problem?

- **Feeling connected with and valued by family and other significant adults**
- **Parental supervision**
- **Child involvement in activities that provide joy, enhance self-esteem, prevent idol time**
- **Parent involvement with child's activities**
- **High educational aspirations of parents and child**
- **Academic success**
- **Feeling connected with school and valuing academic achievement**
- **Strong bonds w/ social institutions (school, community, extra-curr. activ., church)**
- **Personal disapproval of drug and alcohol use**
- **Personal belief that drug and alcohol use is dangerous and harmful**
- **Parents who verbalize expectations/consequences for using alcohol or drugs**
- **Follow through on consequences**

Adapted from: Falkowski, Carol (2002). ***Dangerous Drug: An Easy–to-Use Reference for Parents and Professions.*** **Hazelden, Center City, MN.**

Signs of Concern and Ideas to Address Them

Discuss signs of problematic drug use that parents/guardians should be aware of in the future. Show them the *What a Drug Problem May Look Like* sheet. This list is intended to help parents identify specific problematic behavior across multiple domains that may be correlated with a drug use problem. Note that there is no specific number of items that needs to be endorsed (i.e., this is not a diagnostic tool) and some items indicate severity more than others. The sheet is intended to give an overall picture or to show change over time. Make sure the parent/guardian knows how to access resources in their community if needed or that they can call you in the future for referral purposes.

What a Drug Problem May Look Like

FAMILY

- ❑ Arguments
- ❑ Withdrawal from family
- ❑ Fighting
- ❑ Irresponsibility
- ❑ Coming in late or not at all
- ❑ Scapegoat behavior
- ❑ Physically/verbally abusive
- ❑ Dishonesty, sneakiness
- ❑ Defiant, hostile
- ❑ Secretive, silent
- ❑ Destructive
- ❑ Money or articles missing
- ❑ Finding drugs or paraphernalia

SCHOOL

- ❑ Skipping school regularly
- ❑ Chronic tardiness
- ❑ A drop in grades
- ❑ Getting caught using in/before school
- ❑ Change in attitude & behavior
- ❑ Conflict with school staff or students
- ❑ School staff concerned
- ❑ Suspension, detention

JOB

- ❑ Chronic late arrival
- ❑ Inability to get along with others
- ❑ Irresponsibility
- ❑ Missing work repeatedly
- ❑ Accidents on the job
- ❑ Working below potential
- ❑ Fired

SEXUAL

- ❑ Negative change in sexual values
- ❑ Promiscuity
- ❑ Seductive dress/talk/behavior
- ❑ STDs

SPIRITUAL

- ❑ Hopelessness
- ❑ Extreme self-centeredness
- ❑ "I don't care" attitude
- ❑ Negative changes in values
- ❑ Drops interests, activities that used to be important
- ❑ Creative activities (i.e. art, music) accompanied by drug use

PHYSICAL

- ❑ Lazy, lethargic
- ❑ Change in appearance
- ❑ Regularly tired
- ❑ Hangovers, "sick"
- ❑ Broken bones
- ❑ Car accidents
- ❑ Red eyes/using Visine
- ❑ Blackouts, passing out
- ❑ Weight loss/gain
- ❑ Getting in fights, beat up
- ❑ Suicide talk or behavior
- ❑ Overdosing
- ❑ Caught high/drunk

EMOTIONAL

- ❑ Mood swings
- ❑ Flat affect
- ❑ Out of touch with feelings
- ❑ Extreme anger, depression
- ❑ Irritability
- ❑ Hopeless, "who cares" attitude
- ❑ Defensive
- ❑ Non-communicative

LEGAL

- ❑ Minor consumption
- ❑ Possession charges
- ❑ Shoplifting
- ❑ Stealing
- ❑ Vandalism

MENTAL

- ❑ Poor concentration
- ❑ Distracted
- ❑ Memory loss
- ❑ Lower attention span
- ❑ Lack of motivation

SOCIAL

- ❑ Negative change in friends
- ❑ Secretive about friends
- ❑ Social activities increasingly drug-oriented
- ❑ Dropping activities not associated with drug use
- ❑ Unexplained coming/going, phone calls, etc

HOW TO TALK TO KIDS ABOUT DRUGS AND ALCOHOL USE

For many parents, this topic is a very difficult one. Some parents choose do nothing; others become upset by accidentally discovering some drug paraphernalia and then end up lecturing or berating their child about the dangers of drugs. Research has shown that one of most powerful influences that can be exerted by parents in an effort to reduce the likelihood that their child will use drugs is to communicate to him or her that you disapprove of drug use and would be very upset if use occurred.

- Let's spend some time on the topic of how to talk to your son/daughter about drug use, especially if he or she returns to using.

- One effective and straightforward approach is to make sure that you tell your child that you care about their well-being and that you are concerned that they not use drugs.

- This approach was been created around a six-step process that attempts to reduce defensiveness and open the lines of communication. Here are the six steps. Let's review each of these steps.

Give the parent/guardian a copy of the SIX-STEPS HANDOUT and review each step with them. Answer any questions and address any concerns they may have.

Six Steps: Talking to kids about alcohol and other drugs

Step One – "I care"

Tell your child that you care about him or her. Attempt to build upon your relationship to help to reduce the potential defensiveness in your child. An example of this approach is, "I care about you and I don't want you to get hurt."

Step Two – "I see"

In this step, you need to tell your child what they have done that has caused you concern. Just give the facts, not your opinion, based upon what you have seen or found. An example of this is, "when you came in last night you were three hours late and smelled like alcohol."

Step three – "I feel"

This is where you tell your child about how this behavior or discovery has made you feel. Be sure to take away any blame from this step. For example, "I am really worried that you might get hurt or killed."

Step four – "Listen"

This has to be one of the most important steps. You will need to listen to what the adolescent has to say about their drug use or drinking behaviors. Some may not say anything at all at this point but it is useful to allow this opportunity for the young person to tell their side. It is possible that your child is not ready to talk. You can tell them that you are available to listen to what they have to say at another time.

Step five – "I want"

After hearing your child's side you need to tell them what you want to happen next and what you want them to do. For example, "I don't want you to use drugs at all." Reinforce that you "want" him or her to continue seeing the therapist if the problem does not get better.

Step six – "I will"

This final step is where you tell your child what you will and will not do in order to help them with this problem. Some may choose to be available to just listen when the young person chooses to discuss the issue. Other parents may choose to make an appointment with a chemical health counselor. The best time to talk is when you have calmed down from the initial shock of learning about your child's use of alcohol or other drugs. You will need to find a place to talk where you cannot be interrupted. The time to talk is not while your child is still under the influence of drinking or using other drugs. If the problem persists, encourage your child to make an appointment with the therapist.

(Adapted from Walking the Talk: A Program for Parents about Alcohol, Tobacco and Other Drug Use and Nonuse - A Participant Workbook . Developed by The Center for Substance Abuse Prevention, Rockville, MD, 2001).

PRESENT RESOURCE MATERIALS/ EDUCATIONAL TOOLS

Throughout the session it is important for the therapist to be cognizant of various issues/topics that arise whereby the parent may benefit from obtaining additional information (e.g., info on specific drugs, healthy eating, mental health issues, etc.) Offer the parent/guardian supplemental information on these topics (see Appendix for examples). This information can be distributed via handouts, e-mail, web site info, etc. It is recommended that the therapist bring an array of handouts to the session pertaining to a variety of topics. Therapists can build their own resource handout portfolio utilizing information obtained via reliable web sites or agencies (e.g., SAMHSA, NIDA, CDC, WHO). Parents have found these supplemental resources to be quite beneficial.

SUMMARY/REVIEW OF SESSION

Review the intervention techniques discussed in this session.

- Parental discipline – what has discipline been like, how would you like to change discipline behaviors, who can support you in discipline matters with your child?
- Positive and supportive behaviors –doing things with child such as shopping coffee, lunch, hugs, small talk, prosocial modeling of behavior, other social interactions not necessarily revolved around substances
- Attitudes and behaviors regarding their own use drugs
- Encouraging child to get involved with activities at school, community, etc.

Reinforce what behaviors and attitudes the parent needs to display more frequently (that is, the positive actions) and needs to display less frequently (that is, the negative actions). Review the parent's answers from the FAMILY RULES and PARENT QUESTIONNAIRE

SET GOALS

Complete the Goals Worksheet with the parent. Create concrete goals that could be attainable. Discuss with the parent goals for the near future (up to next major holiday, event, etc. such as Christmas, spring break, end of school year, etc.). Also discuss goals for the longer term, 1 year from now. Write these goals out on the bottom of the Resources handout so the parent can take them with her/him.

HELPFUL RESOURCES FOR PARENTS

Partnership for a Drug Free America
http://www.drugfree.org/parent

Parents The Anti-Drug
http://www.theantidrug.com

4parents
http://www.4parents.gov/

Family Guide
http://www.family.samhsa.gov

Immediate Goals up to _____(list event, holiday, etc.)

1. _____
2. _____
3. _____
4. _____

Goals 1 YEAR from now

5. _____
6. _____
7. _____
8. _____

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Appendix A

SUBSTANCE SPECIFIC INFORMATION

(Please refer to individual articles/resources for appropriate citation)

Tobacco

Common names: Cigarettes, smokes, sticks, butts, Bogarts, bogies, chew, snuff etc.

What is it?

Tobacco comes from the dried and crushed leaves of the tobacco plant. It is the second most popular drug in the world next to alcohol. The drug nicotine in tobacco is responsible for the short-term effects from smoking and the addiction it causes. Tobacco can be smoked in pipes or cigarettes, chewed, or snorted in powder form. All of these forms are just as addictive.

Short-term effects

Short-term effects of using tobacco can include an increase in pulse and blood pressure. Stomach acids increase and the person's skin may become cooler. Urine production is reduced. The amount of activity in a person's brain and nervous system will first increase and then slow back down. Appetite is decreased and the person will be less able to perform energetic and physical activities.

Long-term effects

The long-term effects from using tobacco are very grim. The blood vessels in the person's heart and brain will narrow or darken. This will cause the person to become short of breath and cough frequently. Pneumonia, bronchitis, emphysema and other lung infections are common. Cancer of many different forms as well as stomach ulcers may develop. The person's skin becomes rough, wrinkled, and dry and it ages prematurely. A pregnant woman who smokes can cause the baby to be born prematurely or to have low birth weight. A woman who smokes and takes birth control pills has the increased risk of developing blood clots, a heart attack, and/or a stroke.

Signs of usage

Frequent cough, smoke smell on clothing and hair, yellowish stain of fingers and teeth, possession of a lighter or other tobacco products, decreased appetite, etc.

Legal status

The sale of tobacco products is illegal to minors in the United States under the age of 18.

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

Information About Smoking:
A Guide for Teens

Do you smoke? Have you ever stopped to think about how smoking is affecting your body and your life? Most teens are aware that people who have smoked for awhile can get lung cancer and emphysema and eventually die, but many don't know about all of the bad things that smoking can to them right now. If you smoke, you owe it to yourself to find out about the effects of smoking on your life now. This guide provides some information about what smoking is doing to your body and some of the common reasons why people keep smoking even though they know it's bad for them. These are important things to think about to help you decide if you should continue smoking.

Why is cigarette smoking bad for me?

Everyone knows that smoking can cause cancer when you get older, but did you know that it also has bad effects on your body right now? A cigarette contains about 4000 chemicals, many of which are poisonous. Some of the worst ones are:

- Nicotine: a deadly poison
- Arsenic: used in rat poison
- Methane: a component of rocket fuel
- Ammonia: found in floor cleaner
- Cadmium: used in batteries
- Carbon Monoxide: part of car exhaust
- Formaldehyde: used to preserve body tissue
- Butane: lighter fluid
- Hydrogen Cyanide: the poison used in gas chambers

Every time you inhale smoke from a cigarette, small amounts of these chemicals get into your blood through your lungs. They travel to all the parts of your body and cause harm.

What do all these chemicals do to my body?

As you might imagine, even small amounts of the poisonous chemicals in cigarettes can do bad things to your body. **Here are some facts about what smoking cigarettes does to you**:

- Smoking makes you smell bad, gives you wrinkles, stains your teeth, and gives you bad breath.
- Smokers get 3 times more cavities than non-smokers.
- Smoking lowers your hormone levels.
- When smokers catch a cold, they are more likely than non-smokers to have a cough that lasts a long time. They are also more likely than non-smokers to get bronchitis and pneumonia.
- Teen smokers have smaller lungs and a weaker heart than teen non-smokers. They also get sick more often than teens who don't smoke.

What happens to my lungs when I smoke?

Every time you inhale smoke from a cigarette, you kill some of the air sacks in your lungs, called alveoli. These air sacks are where the oxygen that you breathe in is transferred into your blood. Alveoli don't grow back, so when you destroy them, you have permanently destroyed part of your lungs. This means that you won't do as well in activities where breathing is important, like sports, dancing, or singing.

Smoking paralyzes the cilia that line your lungs. Cilia are little hairlike structures that move back and forth to sweep particles out of your lungs. When you smoke, the cilia can't move and can't do their job. So dust, pollen, and other things that you inhale sit in your lungs and build up. Also, there are a lot of particles in smoke that get into your lungs. Since your cilia are paralyzed because of the smoke and can't clean them out, the particles sit in your lungs and form tar.

I know smoking is bad for me, but I really like it.

Many teens like the feeling that smoking gives them. This good feeling is from the nicotine in the cigarettes. Some teens think smoking will help them lose weight or stay thin. Many teens also feel like smoking gives them a sense of freedom and independence, and some smoke to feel more comfortable in social situations. If this sounds like you, **you should stop and think about whether the things you like about smoking are really worth the risks**.

- Nicotine can make you feel good, but is feeling good (a feeling you can also get from healthy activities like playing sports) really worth all the bad things cigarettes do to you? If you smoke, you'll get sick more often. You also have the chance of getting lung cancer or emphysema, which will make you really sick for a long time before you die. If you are very sick, that good feeling from nicotine won't seem so important anymore.
- Smoking doesn't really help people lose weight. If that were true, every smoker would be thin.
- Smoking lowers your hormone levels.

Do you think that smoking is a sign that you can do what you want? That you are in control of your life?

Think about it this way: When you decide to start smoking, you are doing exactly what tobacco companies want you to do. They spend millions of dollars every year on advertising to try to get new people, especially teens, to smoke. Once they have you hooked, THEY are controlling YOU. You are forced to buy their products in order to support your addiction. Do you really want a big corporation controlling your life and telling you how to spend your money?

Why should I stop smoking if I'm not addicted?

Many people don't realize they are addicted to smoking. They think they can easily quit any time they want. But when they try, they forget it is extremely difficult. Unfortunately, it is very easy to get addicted. Cigarettes are just as addictive as cocaine or heroin. Even if you only smoke one or two cigarettes a day and even if you've never bought a pack of cigarettes yourself, you are at risk. Stressful situations or hanging out with friends who smoke might cause you to smoke more and become addicted. Try going a whole week without smoking at all. If you find this difficult, you are probably addicted to cigarettes.

If I quit smoking, won't I gain weight?

Many people are afraid to quit smoking because they think they will gain weight. In reality, many do gain a little but not enough to change how they look. People don't gain weight because they stop smoking. They gain weight because they start eating more. Often, people confuse the feeling of craving nicotine with hunger and eat to try to make this uncomfortable feeling go away. Smokers are also used to having something in their hands and in their mouth, so they may pick up food to replace holding a cigarette. To keep from gaining weight, try these things:

- Drink sips of water instead of eating when you feel uncomfortable.
- Eat carrot or celery sticks or other healthy, low calorie foods.
- Exercise. This will also help take your mind off smoking and make you healthier.
- Keep busy. You will be less likely to eat when you're not really hungry if you are doing other things.

I'll quit in a year or two when I'm ready.

A lot of people put off quitting smoking, thinking that they'll do it when the time is right. Only 5% of teens think they will still be smoking in 5 years. Actually, about 75% of them are still smoking more than five years later. If you smoke, it will never seem like the right time to quit and quitting will never be easy. The longer you smoke, the harder it will be to stop and the more damage you will do to your body. **Here are some reasons to quit sooner rather than later**:

- Most teens would rather date a non-smoker.
- You'll save money if you quit smoking. A pack of cigarettes costs about $5.00. Even if you only smoke a couple packs a week, you're spending about $40 per month and $480 per year on smoking. Think of all the other things you could use that money for.
- You only have one pair of lungs. Any damage you do to them now will be with you for the rest of your life.
- The longer you smoke, the better your chances are of dying from it. One out of 3 smokers die from smoking and many more become very sick. Think about your friends who smoke. 1/3 of them will die from smoking if none of you quit.

Smoking can have serious effects on your life. The longer you smoke, the more damage you do to your body and your health. Most people who begin smoking as teens say that they wish they had never started. The decision to start or continue smoking is all up to you and no one can make

you stop, but you should think really hard about whether it is the best thing for your body and your life.

Updated: 3/12/06

NIDA NOTES

Research Findings

Volume 16, Number 1 (March, 2001)

Smoking May Lead to Anxiety Disorders in Adolescents and Young Adults

Using a wealth of data obtained through a 25-year longitudinal study, NIDA-funded researcher Dr. Judith Brook of the Mount Sinai School of Medicine in New York, Dr. Patricia Cohen of Columbia University in New York, and their colleagues have documented adverse effects of smoking in several critical areas of functioning during young adulthood. Most recently, the team has reported a connection between tobacco use by adolescents and young adults and the likelihood that they will develop agoraphobia (fear of leaving home or of the outdoors), generalized anxiety disorder, or panic disorder. Analyzing data from their Children in the Community study, funded by NIDA and the National Institute of Mental Health, the researchers were able to separate the effects of smoking from the effects of age, gender, childhood temperament, alcohol and other drug abuse, and depression among the adolescents, as well as parents' smoking, education, and behavioral and/or mental health problems.

The researchers interviewed 688 youths and their mothers in 1983, between 1985 and 1986, and again between 1991 and 1993. A total of 69 of the youths smoked heavily - at least 20 cigarettes every day - and experienced an anxiety disorder during adolescence, early adulthood, or both. Of these 69 youths, 29 (42 percent) began smoking before they were diagnosed with an anxiety disorder. The remaining 40 youths were split between those who were diagnosed with anxiety disorders before they reported heavy smoking (13, or 19 percent) and those who reported smoking and were diagnosed with anxiety disorders at the same interview session (27, or 39 percent).

Adolescents who smoked heavily were 6.8 times more likely to develop agoraphobia, 5.5 times more likely to develop generalized anxiety disorder, and 15.6 times more likely to develop a panic disorder as young adults than were their counterparts who smoked fewer than 20 cigarettes a day or not at all. The investigators speculate that impaired respiration and the potentially damaging effects of nicotine on blood vessels to the brain may help explain why the adolescents who smoked heavily were at increased risk of developing anxiety disorders.

The long-held notion that depression causes some adolescents to smoke may be true. But Dr. Brook's study suggests the opposite may also be true - that smoking increases the risk of

depression in this population. Dr. Brook and her team recommend that future research examine further the possible relationships between various anxiety disorders and smoking.

Source

Johnson, J.G.; Cohen, P.; Pine, D.S.; Klein, D.F.; Kasen, S.; and Brook, J.S. The association between cigarette smoking and anxiety disorders during adolescence and early adulthood. *Journal of the American Medical Association* 284(18):2348-2351, 2000.

NIDA NOTES - Volume 16, Number 1

When your parents were young, people could buy cigarettes and smoke pretty much anywhere - even in hospitals! Ads for cigarettes were all over the place. Today we're more aware about how bad smoking is for our health. Smoking is restricted or banned in almost all public places and cigarette companies are no longer allowed to advertise on buses or trains, billboards, TV, and in many magazines.

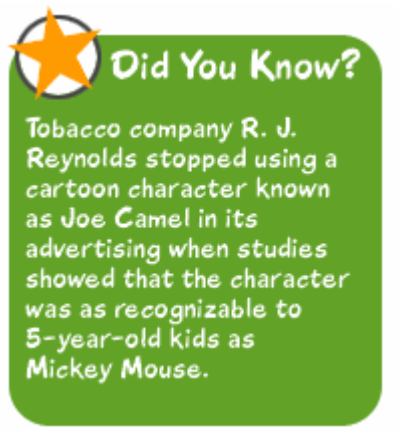
Almost everyone knows that smoking causes cancer, emphysema, and heart disease; that it can shorten your life by 14 years or more; and that the habit can cost a smoker thousands of dollars a year. So how come people are still lighting up? The answer, in a word, is addiction.

Once You Start, It's Hard to Stop

Smoking's a hard habit to break because tobacco contains nicotine, which is highly addictive. Like heroin or other addictive drugs, the body and mind quickly become so used to the nicotine in cigarettes that a person needs to have it just to feel normal.

Almost no smoker begins as an adult. Statistics show that about nine out of 10 tobacco users start before they're 18 years old. Some teens who smoke say they start because they think it helps them look older (it does - if yellow teeth and wrinkles are the look you want). Others smoke because they think it helps them relax (it doesn't - the heart actually beats faster while a person's smoking). Some light up as a way to feel rebellious or to set themselves apart (which works if you want your

friends to hang out someplace else while you're puffing away). Some start because their friends smoke - or just because it gives them something to do.



Some people, especially girls, start smoking because they think it may help keep their weight down. The illnesses that smoking can cause, like lung diseases or cancer, do cause weight loss - but that's not a very good way for people to fit into their clothes!

Another reason people start smoking is because their family members do. Most adults who started smoking in their teens never expected to become addicted. That's why people say it's just so much easier to not start smoking at all.

The cigarette ads from when your parents were young convinced many of them that the habit was glamorous, powerful, or exciting - even though it's essentially a turnoff: smelly, expensive, and unhealthy. Cigarette ads from the 1940s even showed doctors recommending cigarettes as a way to relax!

Cigarette ads still show smokers as attractive and hip, sophisticated and elegant, or rebellious and cool. The good news is that these ads aren't as visible and are less effective today than they used to be: Just as doctors are more savvy about smoking today than they were a generation ago, teens are more aware of how manipulative advertising can be. The government has also passed laws limiting where and how tobacco companies are allowed to advertise to help prevent young kids from getting hooked on smoking.

How Smoking Affects Your Health

There are no physical reasons to *start* smoking - the body doesn't need tobacco the way it needs food, water, sleep, and exercise. In fact, many of the chemicals in cigarettes, like nicotine and cyanide, are actually poisons that can kill in high enough doses. The body's smart and it goes on the

defense when it's being poisoned. For this reason, many people find it takes several tries to get started smoking: First-time smokers often feel pain or burning in the throat and lungs, and some people feel sick or even throw up the first few times they try tobacco.

The consequences of this poisoning happen gradually. Over the long term, smoking leads people to develop health problems like cancer, emphysema (breakdown of lung tissue), organ damage, and heart disease. These diseases limit a person's ability to be normally active - and can be fatal. Each time a smoker lights up, that single cigarette takes about 5 to 20 minutes off the person's life.

Smokers not only develop wrinkles and yellow teeth, they also lose bone density, which increases their risk of **osteoporosis** (pronounced: ahs-tee-o-puh-**row**-sus, a condition that causes older people to become bent over and their bones to break more easily). Smokers also tend to be less active than nonsmokers because smoking affects lung power. Smoking can also cause fertility problems in both men and women and can impact sexual health in males.

The consequences of smoking may seem very far off to many teens, but long-term health problems aren't the only hazard of smoking. Nicotine and the other toxins in cigarettes, cigars, and pipes can affect a person's body quickly, which means that teen smokers experience many of these problems:

- **Bad skin.** Because smoking restricts blood vessels, it can prevent oxygen and nutrients from getting to the skin - which is why smokers often appear pale and unhealthy. An Italian study also linked smoking to an increased risk of getting a type of skin rash called psoriasis.

- **Bad breath.** All those cigarettes leave smokers with a condition called halitosis, or persistent bad breath.

- **Bad-smelling clothes and hair.** The smell of stale smoke tends to linger - not just on people's clothing, but on their hair, furniture, and cars. And it's often hard to get the smell of smoke out.

- **Reduced athletic performance.** People who smoke usually can't compete with nonsmoking peers because the physical effects of smoking - like rapid heartbeat, decreased circulation, and shortness of breath - impair sports performance.

- **Greater risk of injury and slower healing time.** Smoking affects the body's ability to produce collagen, so common sports injuries, such as damage to tendons and ligaments, will heal more slowly in smokers than nonsmokers.

- **Increased risk of illness.** Studies show that smokers get more colds, flu, bronchitis, and pneumonia than nonsmokers. And people with certain health conditions, like asthma, become more sick if they smoke (and often if they're just around people who smoke). Because teens who smoke as a way to manage weight often light up instead of eating, their bodies lack the nutrients they need to grow, develop, and fight off illness properly.

Smoking Is Expensive

Not only does smoking damage health, it costs an arm and a leg. Depending on where you live, smoking a pack of cigarettes a day can cost about $1,800 dollars a year. That adds up. It's money you could save or spend on something for yourself.

Kicking Butt and Staying Smoke Free

All forms of tobacco - cigarettes, pipes, cigars, and smokeless tobacco - are hazardous. It doesn't help to substitute products that seem like they're better for you than regular cigarettes - such as filter or low-tar cigarettes.

The only thing that really helps a person avoid the problems associated with smoking is staying smoke free. This isn't always easy, especially if everyone around you is smoking and offering you cigarettes. It may help to have your reasons for not smoking ready for times you may feel the pressure, such as "I just don't like it" or "I want to stay in shape for soccer" (or football, basketball, or other sport).

The good news for people who don't smoke or who want to quit is that studies show that the number of teens who smoke is dropping dramatically. Today, only about 22% of high school students smoke, down from 36% just 7 years ago.

If you do smoke and want to quit, there's more information and support out there than ever. Different approaches work for different people - for some, quitting cold turkey is best, whereas others find that a slower approach is the way to go. Some people find that it helps to go to a support group especially for teens; these are sometimes sponsored by local hospitals or organizations like the American Cancer Society. And the Internet offers a number of good resources. Check out some of these by clicking on the Resources tab to the right of this article. When quitting, it can be helpful to realize that the first few days are the hardest, and it's normal to have a few relapses before you manage to quit for good.

Staying smoke free will give you a whole lot more of everything - more energy, better performance, better looks, more money in your pocket, and, in the long run, more life to live!

Alcohol

Common names: Beer, wine, brew, booze, hooch, moonshine, vino, sauce, etc.

What is it?

Alcohol is a depressant that reduces the activities of the central nervous system. Alcohol is created by the fermentation of grains, vegetables, and/or fruits.

Short-term effects

The short-term effects of using alcohol cause the person to feel relaxed and less inhibited. People abuse alcohol to become more relaxed, sociable, and as a inexpensive way to get "high." While under the influence of alcohol, thinking becomes distorted as well as judgmental capabilities, reaction time and the decision-making processes. Working or performing other physical and/or mental coordinated tasks will become difficult under the influence of alcohol abuse. Mood may be affected in addition to the ability to control one's temper and actions. Risk taking has been associated with alcohol use. When a person consumes a large amount of alcohol, it is called, "binge drinking." The effects of alcohol can be increased if combined with other drugs. A "hangover" occurs when the person consumes a large amount of alcohol and feels ill the next day.

Long-term effects

Long-term effects of using alcohol have been proven to be very damaging overall. A person who consumes alcohol heavily on a regular basis may suffer from; an inflamed stomach or pancreas, cirrhosis of the liver, cancers of the gastrointestinal tract, heart disease, high blood pressure, brain and nerve damage. In pregnant women, the prenatal exposure to alcohol can cause Fetal Alcohol Syndrome (FAS) or Fetal Alcohol Effects (FAE). These include facial abnormalities, growth deficiencies, and damage to the central nervous system that can result in developmental delays, learning disabilities, hyperactivity, memory deficits, and behavioral disorders. Excessive use of alcohol can cause psychotic behavior and/or death.

Signs of usage

Talkative, boastful, slurred speech, giddiness, a loss of coordination, alcohol smell on one's breath, staggering, nausea, vomiting, delayed reaction time, etc.
Symptoms of a hangover include; headache, stomach ache, low blood sugar, dehydration and possibly an irritation of the lining of the digestive system, an alcohol smell on the person's breath or clothing indicates usage, etc.

Legal status

Alcohol is legal to consume in the United States provided the individual is of drinking age. In most states, this is 21-years-old.

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

Alcohol

What is alcohol?

Alcohol is a general term for a class of chemical compounds. When referring to alcohol as a drink, it means a liquid made by fermenting sugar and plant materials to form an intoxicating drink.

It belongs to the group of drugs called 'depressants'. Depressant drugs do not necessarily make you feel 'depressed'. Rather, they slow down the activity of the central nervous system. They slow down the messages going to and from the brain and the body.

What is a standard drink?

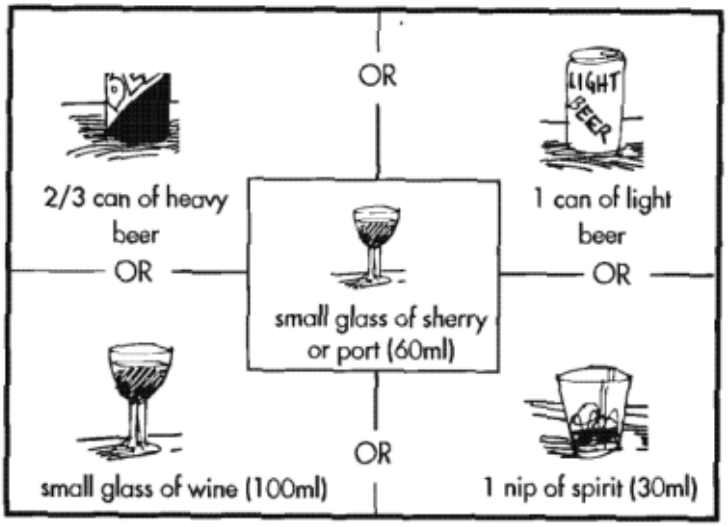
A standard drink contains 10 grams of alcohol and takes a healthy liver one hour to remove from the body. See the following diagram:

What is a standard drink?

Some types of alcohol are stronger than others.

A standard drink contains about 10 grams of pure alcohol.

1 standard drink =



These packages contain . . .

up to 2 standard drinks | up to 40 standard drinks | 36 standard drinks

The following table gives a guideline for drinking alcohol.

	Men (Standard drinks a day)#	**Women (Standard drinks a day) #**
Responsible *	0-4	0-2
Hazardous	4-6	2-4
Harmful	more than 6	more than 4

Effects of alcohol

Short-term effects

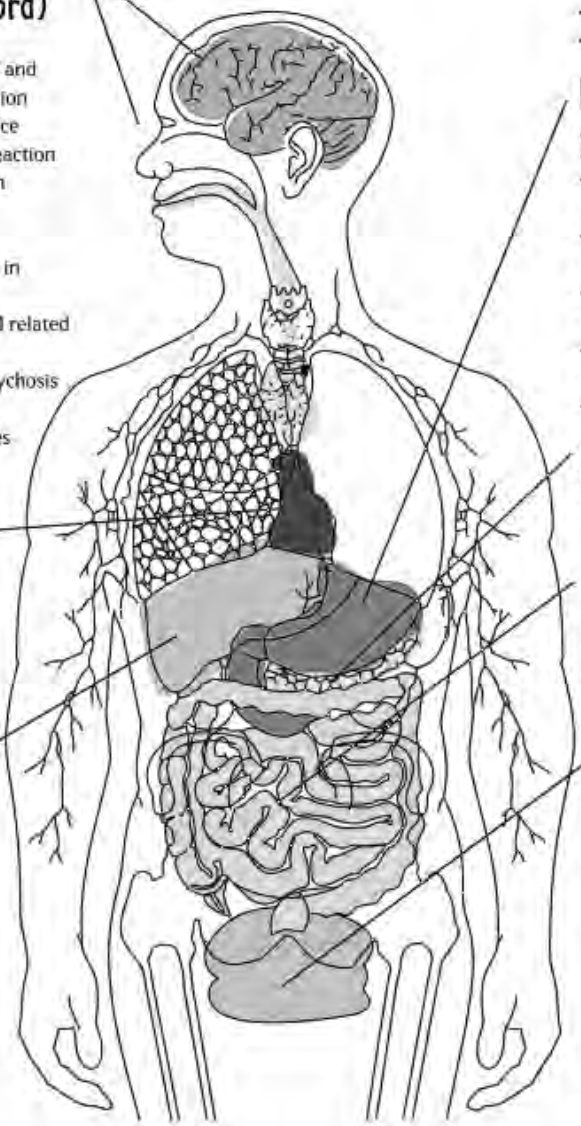
Depending on how much you drink, your experience with alcohol and the environment in which you are drinking, alcohol can cause:

- relaxation, feeling of well-being
- loss of inhibitions
- dizziness, unclear judgment
- uncoordinated movements, slow reactions
- blurred vision, slurred speech
- unconsciousness
- death

Effects of long-term use and misuse

See the following diagram for effects of long-term use and misuse of alcohol.

The Long Term Health Effects Of Alcohol



Central Nervous System (brain and spinal cord)

- impaired senses –vision, hearing, dulled smell and taste, decreased pain perception
- altered sense of time and space
- impaired motor skills, slow reaction
- impaired judgment, confusion
- hallucinations
- fits, blackouts
- tingling and loss of sensation in hands and feet
- early onset dementia (alcohol related brain damage)
- Wernicke's Syndrome and psychosis (delirium)
- mood and personality changes
- feeling anxious or worried

Circulatory System

- high blood pressure
- irregular heart beat
- damage to the heart muscle
- increased risk of heart attack and stroke

Liver

- swollen, painful inflamed
- cirrhosis
- cancer
- fluid build up (oedema)
- increased risk of haemorrhage
- liver failure, coma and death

Pregnancy and Babies

- fetal alcohol syndrome/fetal alcohol effects –small head, possible brain damage, retarded growth and development

General Body

- weight gain
- headaches
- muscle weakness

Gastrointestinal System

- stomach lining inflamed and irritated
- ulcers of the stomach or duodenum
- inflammation or varicose veins of the oesophagus
- loss of appetite, nausea, diarrhoea and vomiting
- cancer

Pancreas

- painful, inflamed, bleeding

Intestines

- irritation of the lining
- inflammation and ulcers
- cancer of intestines and colon

Reproductive System Male and Female

- reduced fertility
- impaired sexual performance
- impotence
- decreased sperm count and movement
- increased risk of breast cancer in females
- early onset of menopause
- irregular menstrual cycle

adapted from www.nt.gov.au

Alcohol and pregnancy

Alcohol crosses the placental barrier. Alcohol intake by the mother at critical times in fetal development can cause 'Fetal Alcohol Syndrome'. The baby may suffer from deformities and learning and behavioral problems. It is strongly recommended that women wanting to get pregnant or who are pregnant do not drink alcohol. There is also evidence that alcohol misuse can affect sperm production. It is recommended that men wanting to father a child reduce alcohol intake to low risk levels.

Withdrawal

If a person has been a heavy drinker and suddenly stops, he or she will experience withdrawal to some degree. Withdrawal symptoms can be severe and life threatening.

Taken From Minneapolis Star Tribune newspaper, July 2, 2006

Binge drinking affects more than the abuser

Connie Midey
The Arizona Republic
Feb. 21, 2006 12:00 AM

The first time Jay Hitchcock drank alcohol, he downed two six-packs of beer, threw up and blacked out.

He was 15 years old, and he thought it was so cool to drink that he continued doing it off and on for years, even when it became anything but cool.

"It was absolute hell," says Hitchcock, 44, of Phoenix, who's in recovery now.

Heavy episodic drinking, the more precise term for the binge drinking he engaged in, has repercussions beyond physical health. Hitchcock experienced many of them, from elevated liver enzymes to two failed marriages.

"I don't have cirrhosis of the liver," he says, "but I'd be a fool to think the drinking didn't do a lot of damage to me physically, psychologically and spiritually. It shipwrecks you on all sides."

Often associated with young adults, binge drinking can occur at any age.

It's defined for men as consuming five or more alcoholic drinks in one sitting, says Karen Moses, director of wellness and health promotions at Arizona State University. (One drink is 12 ounces of beer or 5 ounces of wine or 1 ounce of 80-proof distilled spirits.)

For women, four or more drinks in one sitting is considered binge drinking.

Moses says one-third of ASU students, about the same percentage as at colleges nationwide, report drinking at binge levels, especially in the first six to 12 months after leaving home.

"One of our concerns in terms of long-term health and personal consequences is for those who don't return to normal (drinking behavior)," Moses says.

Educational presentations, counseling, support groups and other programs at ASU aim to intervene before the drinkers - and their dorm- and classmates who drink moderately or not at all - are adversely affected.

Among college students alone, alcohol-related incidents cause 1,400 to 1,700 deaths every year in the United States, says Henry Wechsler, director of college alcohol studies at Harvard University's School of Public Health.

More than 500,000 college students a year receive accidental injuries because of their drinking, and more than 600,000 are assaulted by students who drink, he says.

"The binge drinker is much more likely to miss classes and get behind in schoolwork, have breakdowns in interpersonal relations, get into fights and become injured, and get into trouble with authorities," he says.

Binge drinking also is associated with changes in brain function, poor nutrition, rapes and risky sexual behavior.

With effort, much of the damage can be repaired, and the rewards include "being able to participate fully in life," Moses says.

Wechsler recommends starting by finding friends for whom drinking is not the main activity and cutting back on drinking.

For people like Hitchcock, however, moderate drinking is impossible.

"I didn't drink all the time," he says, "but once I started, I couldn't put it down. The weekend would roll around, I'd get paid and I'd go out, start drinking and not come home until all the money was gone."

The smoking that went hand-in-hand with his drinking left him with respiratory problems. He has facial scars and nerve damage from barroom brawls and the seven car accidents he was in.

Now Hitchcock works daily on his recovery program, reads self-help books and spends time with non-drinkers. And he remembers the pain drinking caused him and his loved ones.

"You think, 'This time I'll manage the drinking and have a good time,' but there's zero chance of that," he says. "You just keep doing the same damn, stupid thing."

Binge Drinking in Adolescents and College Students

Despite laws that make it illegal for anyone under the age of 18 to purchase or possess alcohol, young people report that alcohol is easy to obtain and that many high school and college students drink with one goal – to get drunk.[1] Binge drinking is defined as consuming five or more drinks in a row for boys and four or more in a row for girls.[2]

Prevalence of Binge Drinking

- Binge drinking, often beginning around age 13, tends to increase during adolescence, peak in young adulthood (ages 18 to 22), then gradually decrease.[3]
- Binge drinking during the past 30 days was reported by 8 percent of youth ages 12 to 17 and 30 percent of those ages 18 to 20.[4]
- Among persons under the legal drinking age (12 to 20), 15 percent were binge drinkers and 7 percent were heavy drinkers.[5]

Highlights of SAMHSA's 1998 National Household Survey on Drug Abuse[6] include:

- About 10.4 million adolescents ages 12 to 20 reported using alcohol. Of those, 5.1 million were binge drinkers and included 2.3 million heavy drinkers who binged at least five times a month.
- Nearly 9 percent of boys and 7 percent of girls ages 12 to 17 reported binge drinking in the previous month.
- White non-Hispanic youth ages 12 to 17 reported the highest frequency of binge drinking (9 percent) as compared with 6 percent of Hispanic and 3 percent of black non-Hispanic youth.
- Binge drinking among youth ages 12 to 17 appears to occur most frequently in the North Central region of the United States and in metropolitan areas.

DID YOU KNOW?

** Frequent binge drinkers were eight times more likely than non-binge drinkers to miss a class, fall behind in schoolwork, get hurt or injured, and damage property.[13]

** Nearly one out of every five teenagers (16 percent) has experienced "black out" spells where they could not remember what happened the previous evening because of heavy binge drinking.[14] ** More than 60 percent of college men and almost 50 percent of college women who are frequent binge drinkers report that they drink and drive.[15]

** Binge drinking during high school, especially among males, is strongly predictive of binge drinking in college.[16]

** Binge drinking during college may be associated with mental health disorders such as compulsiveness, depression or anxiety, or early deviant behavior.[17]

** In a national study, 91 percent of women and 78 percent of the men who were frequent binge drinkers considered themselves to be moderate or light drinkers.[18]

Binge Drinking on College Campuses

- According to a 1997 national study conducted by the Harvard School of Public Health, nearly half of all college students surveyed drank four or five drinks in one sitting within the previous 2 weeks.[7]
- Students who live in a fraternity or sorority house are the heaviest drinkers – 86 percent of fraternity residents and 80 percent of sorority residents report binge drinking.[8]
- In a recent study, 39 percent of college women binge drank within a 2-week period compared with 50 percent of college men.[9]
- Colleges with high binge drinking rates were also much more likely to attract students who were binge drinkers in high school.[10]
- In one multicampus survey, white non-Hispanic students reported the highest percentage of binge drinking in a 2-week period (43.8 percent), followed by Native American (40.6 percent), Hispanic (31.3 percent), Asian (22.7 percent), and black non-Hispanic (22.5 percent) students. This pattern of binge drinking differences among ethnic groups is also seen in high school students.[11]

Consequences of Binge Drinking[12]

Alcohol poisoning – a severe and potentially fatal physical reaction to an alcohol overdose – is the most serious consequence of binge drinking. When excessive amounts of alcohol are consumed, the brain is deprived of oxygen. The struggle to deal with an overdose of alcohol and lack of oxygen will eventually cause the brain to shut down the voluntary functions that regulate breathing and heart rate.

If a person is known to have consumed large quantities of alcohol in a short period of time, symptoms of alcohol poisoning include:

- Vomiting
- Unconsciousness
- Cold, clammy, pale, or bluish skin
- Slow or irregular breathing (less than 8 breaths a minute or 10 or more seconds between breaths).

Secondary Effects of Binge Drinking

- In schools with high binge drinking rates, 34 percent of non-binge drinkers reported being insulted or humiliated by binge drinkers; 13 percent reported being pushed, hit, or assaulted; 54 percent reported having to take care of a drunken student; 68 percent were interrupted while studying; and 26 percent of women experienced an unwanted sexual advance.[19]

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SAMHSA, a public health agency in the Department of Health and Human Services, is the Federal Government's lead agency for improving the quality and availability of substance abuse prevention, addiction treatment, and mental health services in the United States. Further information about SAMHSA is available on the Internet at www.samhsa.gov.

Caffeine

What is it?

The drug caffeine is derived from a variety of plants including coffee, tea, cocoa, and some nuts. It is the most widely used drug in the world because caffeine is found in coffee, tea, soft drinks, and chocolate.

Short-term effects

The short-term effects associated with caffeine intake are initially an elevation in one's mood. It reduces drowsiness and fatigue while larger doses can cause irritability, restlessness, nervousness, and insomnia. Caffeine constricts the blood vessels and increases one's heart rate, blood pressure, and over-production of gastric juices, urine output and birth defects in pregnant women.

Long-term effects

The long-term effects associated with large doses may cause irritability, restlessness, nervousness, muscle twitches, rapid and/or irregular heartbeat, inexhaustibility, agitation and insomnia. Caffeine has been proven to be a highly addictive substance.

Signs of usage

Jittery, hyperactive, talkative, anxiety, withdrawal symptoms, etc.

Legal status

Caffeine is not a restricted drug. It is legal to purchase and consume with the exception of certain athletic events including the Olympics (where it is considered a performance-enhancing drug).

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

Cannabis

Common names : Marijuana, dope, THC, pot, hemp, weed, ganja, grass, reefer, Mary Jane, hashish, hash, hash oil, chronic, gangster, boom, nugs, etc.

What is it?

The drug comes from the cannabis plant. It appears as green, brown, or gray mixtures of dried, shredded leaves, stems, and seeds. The usual method of consumption is to smoke it in a pipe, water pipe ("bong"), or rolled up in cigarette or cigar papers, called "joints," or "blunts." Hashish (or hash) is a derivative of the plant material and is typically more potent and concentrated than marijuana. Hash is a resinous substance that presents itself as hard or soft slabs that are broken up and smoked in a pipe, sometimes with added tobacco. These slabs can range in color from light brown to black and appear either hard to sticky to the touch. The active drug of these substances is THC (delta-9-tetrahydrocannabinol).

Short-term effects

The short-term effects of using marijuana are a feeling of elation and relaxation. The person might be more talkative. An increase in pulse rate and heartbeat as well as a rise in the individual's blood pressure is possible. Using marijuana has been known to cause short-term memory problems, difficulties with concentration, relaxed inhibitions, disorientated behavior, and the ability to think clearly. It can cause confusion, restlessness, excitement, and even hallucinations.

Long-term effects

The long-term effects of using marijuana may cause the person to become dependent on the drug. A loss of interest in formerly enjoyed activities, as well as the ability to learn new things may be harmed. There has been a link established with the chronic use of marijuana and a weakened immune system. The user may acquire chronic bronchitis, various forms of cancer, heart attack, stroke, and/or blood pressure difficulties. Recent studies have indicated that marijuana use in pregnancy causes ADHD, memory and concentration problems in the developing child.

Signs of usage

Excessive thirst or hunger (called, "the munchies"), red or bloodshot eyes, trouble with thinking, memory, and learning, loss of motor coordination, silliness or giddiness for no reason, sleepiness, dizziness, anxiety, talkativeness, etc.

Legal status

Purchasing, selling or possessing cannabis is illegal in the United States, with very few exceptions. The only legal use of marijuana is for treating patients who suffer from cancer, Glaucoma, and/or AIDS.

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

The Effects of Marijuana on the Lungs

Researchers at the UCLA Pulmonary Research Laboratory studied the effects of marijuana smoking in 75 young men. The men consumed an average of five marijuana cigarettes a day for two months. The study showed that the **lung damage caused by four marijuana cigarettes were equal to the damage caused by 112 tobacco cigarettes.**

Gabriel Nahas, a leading researcher and anesthesiologist at Columbia University, wrote in the Journal of American Medical Association:

"Cannabis use interfered with cell division...harmed lung tissue significantly, with the damage persisting long after cessation of smoking...lowered the lungs' defenses against bacteria 'substantially more' than does tobacco...reduced sperm counts and decreased testosterone levels (although these effects were reversible after the users stopped smoking marijuana)...caused birth defects...hindered brain function...impaired judgment while driving...and perhaps (this point was not considered proven) triggered epileptic seizures."

Although many studies have come to the same conclusions about marijuana smoking and its effects on the respiratory system, some studies have shown otherwise.

Marijuana may be greater cancer risk than tobacco, research suggests

June 21, 2000
Web posted at: 3:19 p.m. EDT (1919 GMT)

From staff reports

(CNN) -- Smoking marijuana may be a greater cancer danger than smoking tobacco, a new study from the University of California at Los Angeles suggests.

The research, conducted on mice, was published in the July issue of the Journal of Immunology. The UCLA researchers studied the effect of tetrahydrocannabinol, or THC, the major euphoriant in marijuana.

They found that THC can promote tumor growth in mice by impairing the body's anti-tumor immunity system. Mice with normal immune systems had significant tumor growth when injected with both lung cancer cells and THC. However, the compound appeared to have no effect on mice whose immune systems were already compromised.

While previous research had shown that THC can lower resistance to both bacterial and viral infections, this is the first time that THC's possible tumor-promoting activity has been reported, according to the National Institute on Drug Abuse, a part of the National Institutes of Health.

The UCLA scientists also found that the tar in marijuana smoke contains higher concentrations of substances called hydrocarbons than tar from tobacco smoke does. These hydrocarbons are a key factor in promoting human lung cancer.

Because marijuana smoke deposits four times as much tar in the respiratory tract as a comparable amount of tobacco, the exposure to carcinogens is increased, the researchers wrote.

"What we already know about marijuana smoke, coupled with our new finding that THC may encourage tumor growth, suggests that regular use of marijuana may increase the risk of respiratory-tract cancer and further studies will be needed to evaluate this possibility," Dr. Steven M. Dubinett, head of the research team that conducted the study, said in a statement.

Smoking marijuana is illegal in the United States, though several states have laws allowing its use for medicinal purposes. A federal advisory panel last year acknowledged that marijuana can fight pain and nausea, and the drug is thought to ease symptoms of the eye disease glaucoma.

What is marijuana?

Marijuana - often called ***pot, grass, reefer, weed, herb, mary jane, or mj*** - is a greenish-gray mixture of the dried, shredded leaves, stems, seeds, and flowers of ***Cannabis sativa***, the hemp plant. Most users smoke marijuana in hand-rolled cigarettes called ***joints***, among other names; some use pipes or water pipes called ***bongs***. Marijuana cigars called ***blunts*** have also become popular. To make blunts, users slice open cigars and replace the tobacco with marijuana, often combined with another drug, such as crack cocaine.[21] Marijuana also is used to brew tea and is sometimes mixed into foods.

The major active chemical in marijuana is delta-9-tetrahydrocannabinol (THC), which causes the mind-altering effects of marijuana intoxication. The amount of THC (which is also the psychoactive ingredient in hashish) determines the potency and, therefore, the effects of marijuana. Between 1980 and 1997, the amount of THC in marijuana available in the United States rose dramatically.[22]

What is the scope of marijuana use in the United States?

Marijuana is the Nation's most commonly used illicit drug. More than 94 million Americans (40 percent) age 12 and older have tried marijuana at least once, according to the 2003 National Survey on Drug Use and Health (NSDUH).[23]

Marijuana use is widespread among adolescents and young adults. The percentage of middle-school students who reported using marijuana increased throughout the early 1990s.[24] In the past few years, according to the 2004 Monitoring the Future Survey, an annual survey of drug use among the Nation's middle and high school students, illicit drug use by 8th-, 10th-, and 12th-graders has leveled off.[24] Still, in 2004, 16 percent of 8th-graders reported that they had tried marijuana, and 6 percent were current users (defined as having used the drug in the 30 days preceding the survey).[24] Among 10th-graders, 35 percent had tried marijuana sometime in their lives, and 16 percent were current users.[24] As would be expected, rates of use among 12th-graders

were higher still. Forty-six percent had tried marijuana at some time, and 20 percent were current users.[24]

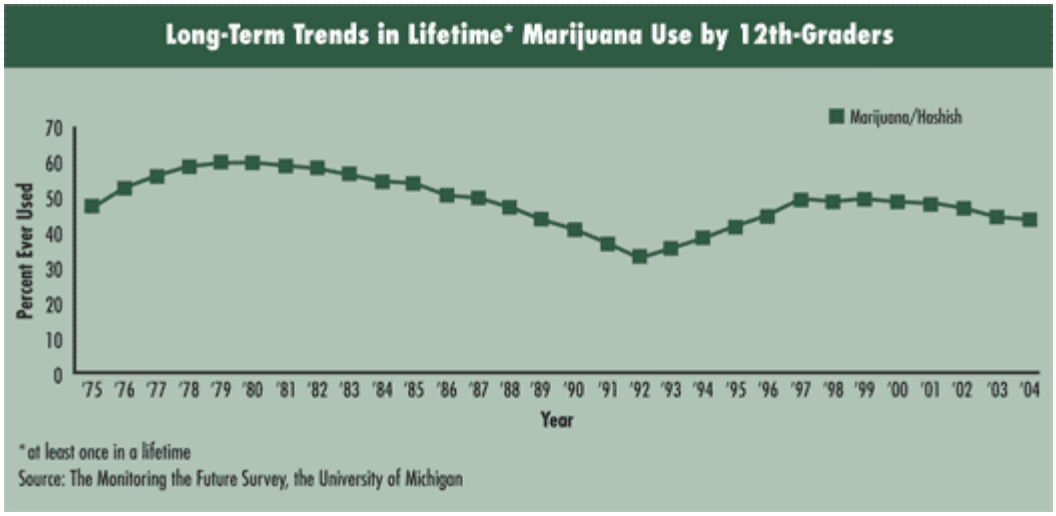
The Drug Abuse Warning Network (DAWN), a system for monitoring the health impact of drugs, estimated that, in 2002, marijuana was a contributing factor in over 119,000 emergency department (ED) visits in the United States, with about 15 percent of the patients between the ages of 12 and 17, and almost two-thirds male.[25]

In 2002, the National Institute of Justice's Arrestee Drug Abuse Monitoring (ADAM) Program, which collects data on the number of adult arrestees testing positive for various drugs, found that, on average, 41 percent of adult male arrestees and 27 percent of adult female arrestees tested positive for marijuana.[26] On average, 57 percent of juvenile male and 32 percent of juvenile female arrestees tested positive for marijuana.

NIDA's Community Epidemiology Work Group (CEWG), a network of researchers that tracks trends in the nature and patterns of drug use in major U.S. cities, consistently reports that marijuana frequently is combined with other drugs, such as crack cocaine, PCP, formaldehyde, and codeine cough syrup, sometimes without the user being aware of it.[21] Thus, the risks associated with marijuana use may be compounded by the risks of added drugs, as well.

How does marijuana affect the brain?

Scientists have learned a great deal about how THC acts in the brain to produce its many effects. When someone smokes marijuana, THC rapidly passes from the lungs into the bloodstream, which carries the chemical to organs throughout the body, including the brain. In the brain, THC connects to specific sites called *cannabinoid receptors* on nerve cells and thereby influences the activity of those cells. Some brain areas have many cannabinoid receptors; others have few or none. Many cannabinoid receptors are found in the parts of the brain that influence pleasure, memory, thought, concentration, sensory and time perception, and coordinated movement.[27]



What are the acute effects of marijuana use?

When marijuana is smoked, its effects begin immediately after the drug enters the brain and last from 1 to 3 hours. If marijuana is consumed in food or drink, the short-term effects begin more slowly, usually in 1/2 to 1 hour, and last longer, for as long as 4 hours. Smoking marijuana deposits several times more THC into the blood than does eating or drinking the drug.[28]

Within a few minutes after inhaling marijuana smoke, an individual's heart begins beating more rapidly, the bronchial passages relax and become enlarged, and blood vessels in the eyes expand, making the eyes look red. The heart rate, normally 70 to 80 beats per minute, may increase by 20 to 50 beats per minute or, in some cases, even double.[15] This effect can be greater if other drugs are taken with marijuana.[29]

As THC enters the brain, it causes a user to feel euphoric - or "high" - by acting in the brain's reward system, areas of the brain that respond to stimuli such as food and drink as well as most drugs of abuse. THC activates the reward system in the same way that nearly all drugs of abuse do, by stimulating brain cells to release the chemical dopamine.[30,31,32]

A marijuana user may experience pleasant sensations, colors and sounds may seem more intense, and time appears to pass very slowly. The user's mouth feels dry, and he or she may suddenly become very hungry and thirsty. His or her hands may tremble and grow cold. The euphoria passes after awhile, and then the user may feel sleepy or depressed. Occasionally, marijuana use produces anxiety, fear, distrust, or panic.

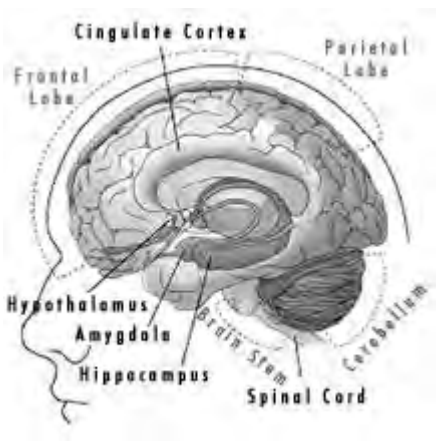
Heavy marijuana use impairs a person's ability to form memories, recall events (see Marijuana, Memory, and the Hippocampus), and shift attention from one thing to another.[8,33] THC also disrupts coordination and balance by binding to receptors in the cerebellum and basal ganglia, parts of the brain that regulate balance, posture, coordination of movement, and reaction time.[11] Through its effects on the brain and body, marijuana intoxication can cause accidents. Studies show that

approximately 6 to 11 percent of fatal accident victims test positive for THC. In many of these cases, alcohol is detected as well.[34, 35, 36]

In a study conducted by the National Highway Traffic Safety Administration, a moderate dose of marijuana alone was shown to impair driving performance; however, the effects of even a low dose of marijuana combined with alcohol were markedly greater than for either drug alone[37]. Driving indices measured included reaction time, visual search frequency (driver checking side streets), and the ability to perceive and/or respond to changes in the relative velocity of other vehicles.

Marijuana users who have taken high doses of the drug may experience acute toxic psychosis, which includes hallucinations, delusions, and depersonalization - a loss of the sense of personal identity, or self-recognition.[10,15] Although the specific causes of these symptoms remain unknown, they appear to occur more frequently when a high dose of cannabis is consumed in food or drink rather than smoked.

Marijuana's Effects on the Brain



When marijuana is smoked, its active ingredient, THC, travels throughout the body, including the brain, to produce its many effects. THC attaches to sites called cannabinoid receptors on nerve cells in the brain, affecting the way those cells work. Cannabinoid receptors are abundant in parts of the brain that regulate movement, coordination, learning and memory, higher cognitive functions such as judgment, and pleasure.

Brain Region	Functions Associated With Region
Brain regions in which cannabinoid receptors are abundant	
Cerebellum	Body movement coordination
Hippocampus	Learning and memory
Cerebral cortex, especially cingulate, frontal, and parietal regions	Higher cognitive functions
Nucleus accumbens	Reward
Basal ganglia • Substantia nigra pars reticulata • Entopeduncular nucleus • Globus pallidus • Putamen	Movement control
Brain regions in which cannabinoid receptors are moderately concentrated	
Hypothalamus	Body housekeeping functions (body temperature regulation, salt and water balance, reproductive function)
Amygdala	Emotional response, fear

	Spinal cord	Peripheral sensation, including pain
	Brain stem	Sleep and arousal, temperature regulation, motor control
	Central gray	Analgesia
	Nucleus of the solitary tract	Visceral sensation, nausea and vomiting

How does marijuana use affect physical health?

Marijuana use has been shown to increase users' difficulty in trying to quit smoking tobacco.[38] This was reported in a study comparing smoking cessation in adults who smoked both marijuana and tobacco with those who smoked only tobacco. The relationship between marijuana use and continued smoking was particularly strong in those who smoked marijuana daily at the time of the initial interview, 13 years prior to the followup interview.

A study of 450 individuals found that people who smoke marijuana frequently but do not smoke tobacco have more health problems and miss more days of work than nonsmokers do.[39] Many of the extra sick days used by the marijuana smokers in the study were for respiratory illnesses.

Even infrequent marijuana use can cause burning and stinging of the mouth and throat, often accompanied by a heavy cough. Someone who smokes marijuana regularly may have many of the same respiratory problems that tobacco smokers do, such as daily cough and phlegm production, more frequent acute chest illnesses, a heightened risk of lung infections, and a greater tendency toward obstructed airways.[4]

Cancer of the respiratory tract and lungs may also be promoted by marijuana smoke.[4] A study comparing 173 cancer patients and 176 healthy individuals produced strong evidence that smoking marijuana increases the likelihood of developing cancer of the head or neck, and that the more marijuana smoked, the greater the increase.[17] A statistical analysis of the data suggested that marijuana smoking doubled or tripled the risk of these cancers.

Marijuana has the potential to promote cancer of the lungs and other parts of the respiratory tract because it contains irritants and carcinogens.[40] In fact, marijuana smoke contains 50 percent to 70 percent more carcinogenic hydrocarbons than does tobacco smoke.[41] It also produces high levels of an enzyme that converts certain hydrocarbons into their carcinogenic form, levels that may accelerate the changes that ultimately produce malignant cells.[42] Marijuana users usually inhale more deeply and hold their breath longer than tobacco smokers do, which increases the lungs'

exposure to carcinogenic smoke. These facts suggest that, puff for puff, smoking marijuana may increase the risk of cancer more than smoking tobacco does.

Some adverse health effects caused by marijuana may occur because THC impairs the immune system's ability to fight off infectious diseases and cancer. In laboratory experiments that exposed animal and human cells to THC or other marijuana ingredients, the normal disease-preventing reactions of many of the key types of immune cells were inhibited.[16] In other studies, mice exposed to THC or related substances were more likely than unexposed mice to develop bacterial infections and tumors.[14,43]

One study has indicated that a person's risk of heart attack during the first hour after smoking marijuana is four times his or her usual risk.[44] The researchers suggest that a heart attack might occur, in part, because marijuana raises blood pressure and heart rate and reduces the oxygen-carrying capacity of blood.

Marijuana, Memory, and the Hippocampus

Marijuana's damage to short-term memory seems to occur because THC alters the way in which information is processed by the hippocampus, a brain area responsible for memory formation. Laboratory rats treated with THC displayed the same reduced ability to perform tasks requiring short-term memory as other rats showed after nerve cells in their hippocampus were destroyed.[66] In addition, the THC-treated rats had the greatest difficulty with the tasks precisely during the time when the drug was interfering most with the normal functioning of cells in the hippocampus.

As people age, they normally lose neurons in the hippocampus, which decreases their ability to remember events. Chronic THC exposure may hasten the age-related loss of hippocampal neurons. In one series of studies, rats exposed to THC every day for 8 months (approximately 30 percent of their lifespan), when examined at 11 to 12 months of age, showed nerve cell loss equivalent to that of unexposed animals twice their age.[67, 68, 69]

Health Consequences of Marijuana Abuse

Acute (present during intoxication)

- Impairs short-term memory
- Impairs attention, judgment, and other cognitive functions
- Impairs coordination and balance
- Increases heart rate

Persistent (lasting longer than intoxication, but may not be permanent)

- Impairs memory and learning skills

Long-term (cumulative, potentially permanent effects of chronic abuse)

- Can lead to addiction
- Increases risk of chronic cough, bronchitis, and emphysema
- Increases risk of cancer of the head, neck, and lungs

The Science of Medical Marijuana

THC, the main active ingredient in marijuana, produces effects that potentially can be useful for treating a variety of medical conditions. It is the main ingredient in an oral medication that is currently used to treat nausea in cancer chemotherapy patients and to stimulate appetite in patients with wasting due to AIDS. Scientists are continuing to investigate other potential medical uses for cannabinoids.[74]

Research is underway to examine the effects of smoked marijuana and extracts of marijuana on appetite stimulation, certain types of pain, and spasticity due to multiple sclerosis. However, the inconsistency of THC dosage in different marijuana samples poses a major hindrance to valid trials and to the safe and effective use of the drug. Moreover, the adverse effects of marijuana smoke on the respiratory system [4, 5, 6] will offset the helpfulness of smoked marijuana for some patients. Finally, little is known about the many chemicals besides THC that are in marijuana, or their possible deleterious impact on patients with medical conditions.

How does marijuana use affect school, work, and social life?

Students who smoke marijuana get lower grades and are less likely to graduate from high school, compared with their nonsmoking peers.[20,45,46,47]

Workers who smoke marijuana are more likely than their coworkers to have problems on the job. Several studies have associated workers' marijuana smoking with increased absences, tardiness, accidents, workers' compensation claims, and job turnover. A study among postal workers found that employees who tested positive for marijuana on a pre-employment urine drug test had 55 percent more industrial accidents, 85 percent more injuries, and a 75 percent increase in absenteeism compared with those who tested negative for marijuana use.[48]

Depression[18], anxiety[18], and personality disturbances[50] are all associated with marijuana use. Research clearly demonstrates that marijuana use has the potential to cause problems in daily life or make a person's existing problems worse. Because marijuana compromises the ability to learn and remember information, the more a person uses marijuana the more he or she is likely to fall behind in accumulating intellectual, job, or social skills. In one study of cognition, adults were matched on the basis of their performance in the 4th grade on the Iowa Test of Basic Skills. They were evaluated on a number of cognitive measures including the 12th-grade version of the Iowa Test. Those who were heavy marijuana smokers scored significantly lower on mathematical skills and verbal expression than nonsmokers.[9]

Moreover, research has shown that marijuana's adverse impact on memory and learning can last for days or weeks after the acute effects of the drug wear off.[9,51] For example, a study of 129 college students found that among heavy users of marijuana - those who smoked the drug at least 27 of the preceding 30 days - critical skills related to attention, memory, and learning were significantly impaired, even after they had not used the drug for at least 24 hours.[33] The heavy marijuana users in the study had more trouble sustaining and shifting their attention and in registering, organizing, and using information than did the study participants who had used marijuana no more than 3 of the previous 30 days. As a result, someone who smokes marijuana once daily may be functioning at a reduced intellectual level all of the time. More recently, the same researchers showed that a group of long-term heavy marijuana users' ability to recall words from a list was impaired 1 week following cessation of marijuana use, but returned to normal by 4 weeks.[51] An implication of this finding is that even after long-term heavy marijuana use, if an individual quits marijuana use, some cognitive abilities may be recovered.

Another study produced additional evidence that marijuana's effects on the brain can cause cumulative deterioration of critical life skills in the long run. Researchers gave students a battery of tests measuring problem-solving and emotional skills in 8th grade and again in 12th grade.[52] The results showed that the students who were already drinking alcohol plus smoking marijuana in 8th grade started off slightly behind their peers, but that the distance separating these two groups grew significantly by their senior year in high school. The analysis linked marijuana use, independently of alcohol use, to reduced capacity for self-reinforcement, a group of psychological skills that enable individuals to maintain confidence and persevere in the pursuit of goals.

Marijuana users themselves report poor outcomes on a variety of measures of life satisfaction and achievement. A recent study compared current and former long-term heavy users of marijuana with a control group who reported smoking cannabis at least once in their lives, but not more than 50 times. Despite similar education and incomes in their families of origin, significant differences were found on educational attainment and income between heavy users and the control group: fewer of the cannabis users completed college and more had household incomes of less than $30,000. When asked how marijuana affected their cognitive abilities, career achievements, social lives, and physical and mental health, the overwhelming majority of heavy cannabis users reported the drug's deleterious effect on all of these measures.[53]

The Body's Natural THC-Like Chemicals

THC owes many of its effects to its similarity to a family of chemicals called the *endogenous cannabinoids*, which are natural *Cannabis*-like chemicals. Because a THC molecule is shaped like these endogenous cannabinoids, it interacts with the same receptors on nerve cells, the cannabinoid receptors, that endogenous cannabinoids do, and it influences many of the same processes. Research has shown that the endogenous cannabinoids help control a wide array of mental and physical processes in the brain and throughout the body, including memory and perception, fine motor coordination, pain sensations,[70] immunity to disease, and reproduction.[71]

When someone smokes marijuana, THC overstimulates the cannabinoid receptors, leading to a disruption of the endogenous cannabinoids' normal function. This overstimulation produces the intoxication experienced by marijuana smokers. Over time, it may alter the function of cannabinoid receptors, which, along with other changes in the brain, can lead to withdrawal symptoms and addiction.[60,72,73]

Can marijuana use during pregnancy harm the baby?

Research has shown that some babies born to women who used marijuana during their pregnancies display altered responses to visual stimuli, increased tremulousness, and a high-pitched cry, which may indicate problems with neurological development.[54, 75] During the preschool years, marijuana-exposed children have been observed to perform tasks involving sustained attention and memory more poorly than nonexposed children do.[55,56] In the school years, these children are more likely to exhibit deficits in problem-solving skills, memory, and the ability to remain attentive.[55,56]

Is marijuana use addictive?

Long-term marijuana use can lead to addiction for some people; that is, they use the drug compulsively even though it often interferes with family, school, work, and recreational activities. According to the 2003 National Survey on Drug Use and Health (NSDUH), an estimated 21.6 million Americans aged 12 or older were classified with substance dependence or abuse (9.1 percent of the total population). Of the estimated 6.9 million Americans classified with dependence on or abuse of illicit drugs, 4.2 million were dependent on or abused marijuana.[57] In 2002, 15 percent of people entering drug abuse treatment programs reported that marijuana was their primary drug of abuse.[58]

Along with craving, withdrawal symptoms can make it hard for long-term marijuana smokers to stop using the drug.[49] People trying to quit report irritability, difficulty sleeping, and anxiety.[59,60] They also display increased aggression on psychological tests, peaking approximately 1 week after they last used the drug.[61]

In addition to its addictive liability, research indicates that early exposure to marijuana can increase the likelihood of a lifetime of subsequent drug problems. A recent study of over 300 fraternal and identical twin pairs, who differed on whether or not they used marijuana before the age of 17, found that those who had used marijuana early had elevated rates of other drug use and drug problems later on, compared with their twins, who did not use marijuana before age 17. This study re-emphasizes the importance of primary prevention by showing that early drug initiation is associated with increased risk of later drug problems, and it provides more evidence for why preventing marijuana experimentation during adolescence could have an impact on preventing addiction.[62]

Solvents and Aerosols/Inhalants

Common names: Gas, glue, sniff, etc. - the process of inhaling them is called, "huffing"

What is it?

Solvents and inhalants are found in many household products such as gas in aerosol cans, correction fluid, spray paint, air freshener, various types of glue, marking pens, etc. These substances were not designed to be used recreationally or to become intoxicated. They are dangerous chemicals that are used in products such as gasoline and model airplane glue.

Short-term effects

The short-term effects from inhaling these chemicals produce lightheadedness, euphoria, and sometimes a fantasy-like state. Nausea is common and drooling can occur by the individual while under the influence of these chemicals. Sneezing and coughing can happen. A loss of muscular coordination as well as the reduction of reflex speed has been indicated. Permanent brain damage and death can occur from only one usage.

Long-term effects

Long-term effects such as weight loss, nose bleeds, bloodshot eyes, and sores on the nose and mouth are common. An interference with the growth of blood cells has found to be connected with inhaling these chemicals. Suffocation and heart failure can cause permanent brain damage or death. Fatigue, mental confusion, depression, irritability, hostility, and paranoia may occur. Tremors may develop from the lack of coordination as well as neurological damage.

Signs of usage

The user may become sensitive to light, have slurred speech, drowsiness or loss of consciousness, runny nose and/or watery eyes, a loss of muscle control, paint on the face and hands, and sores on the nose and mouth are common, etc.

Legal status

Possessing these types of solvents, aerosols and inhalants is legal in the United States. However, a person must be 18-years-old to purchase them in many states (i.e. airplane glue).

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

Ecstasy (MDMA, methylenedioxymethamphetamine)

Common names: E, X, XTC, Adam, the love drug, designer drug, also called, "a club drug," because of the usage by those who attend nightclubs or parties called "raves," etc.

What is it?

Ecstasy or methylenedioxymethamphetamine (MDMA) is a psychoactive drug with hallucinogenic and amphetamine-like effects. There is no approved medical usage for this drug at this time. Generally it is taken orally in the form of a tablet or gelatin capsule. The powder form of ecstasy can be snorted as well.

Short-term effects

The short-term effects in the low to moderate doses produce a mild intoxication, euphoria, and a sense of pleasure. People who have used the drug report to feel more connected with others as well as the lack of inhibition. Large doses of this drug increase the negative effects and may cause alterations in one's perceptions, thinking processes, and/or memory. The agony of ecstasy is the severe risk of dehydration and hypothermia. Deaths have been caused by the hazardous increase of the victims' body temperatures. This happens more often at raves as users over-exert themselves while dancing. These drugs combined with other drugs and/or with alcohol, increase the dangerous effects. Psychiatric problems may develop that can last from days to weeks, and in extreme cases, years.

Long-term effects

Long-term effects of using Ecstasy cause severe depression and concentration difficulties. Damage to the nerves and brain chemicals that cause permanent memory and learning disabilities have been documented. People who have used this drug frequently have noted weight loss, confusion, irritability, depression, paranoia, psychosis, and fatigue. Some reactions in certain people may be more severe than others and unpredictable from only one usage.

Signs of usage

Users may experience sweating, increased heart rate and blood pressure, increased sensitivity to touch, nausea, anxiety, panic attacks, blurred vision, jaw pain (from grinding teeth), insomnia, vomiting, paranoia and convulsions.

Legal status

At this time, Ecstasy is illegal to purchase, sell, or consume in the United States.

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

NIDA InfoFacts: MDMA (Ecstasy)

MDMA (3,4 methylenedioxymethamphetamine) is a synthetic, psychoactive drug chemically similar to the stimulant methamphetamine and the hallucinogen mescaline. Street names for MDMA include Ecstasy, Adam, XTC, hug, beans, and love drug. MDMA is an illegal drug that acts as both a stimulant and psychedelic, producing an energizing effect, as well as distortions in time and perception and enhanced enjoyment from tactile experiences.

MDMA exerts its primary effects in the brain on neurons that use the chemical serotonin to communicate with other neurons. The serotonin system plays an important role in regulating mood, aggression, sexual activity, sleep, and sensitivity to pain.

Research in animals indicates that MDMA is neurotoxic; whether or not this is also true in humans is currently an area of intense investigation. MDMA can also be dangerous to health and, on rare occasions, lethal.

Health Hazards

For some people, MDMA can be addictive. A survey of young adult and adolescent MDMA users found that 43 percent of those who reported ecstasy use met the accepted diagnostic criteria for dependence, as evidenced by continued use despite knowledge of physical or psychological harm, withdrawal effects, and tolerance (or diminished response), and 34 percent met the criteria for drug abuse. Almost 60 percent of people who use MDMA report withdrawal symptoms, including fatigue, loss of appetite, depressed feelings, and trouble concentrating.

Cognitive Effects
Chronic users of MDMA perform more poorly than nonusers on certain types of cognitive or memory tasks. Some of these effects may be due to the use of other drugs in combination with MDMA, among other factors.

Physical Effects
In high doses, MDMA can interfere with the body's ability to regulate temperature. On rare but unpredictable occasions, this can lead to a sharp increase in body temperature (hyperthermia), resulting in liver, kidney, and cardiovascular system failure, and death.
Because MDMA can interfere with its own metabolism (breakdown within the body), potentially harmful levels can be reached by repeated drug use within short intervals.

Users of MDMA face many of the same risks as users of other stimulants such as cocaine and amphetamines. These include increases in heart rate and blood pressure, a special risk for people with circulatory problems or heart disease, and other symptoms such as muscle tension, involuntary teeth clenching, nausea, blurred vision, faintness, and chills or sweating.

Psychological Effects
These can include confusion, depression, sleep problems, drug craving, and severe anxiety. These problems can occur during and sometimes days or weeks after taking MDMA.

Neurotoxicity
Research in animals links MDMA exposure to long-term damage to neurons that are involved in mood, thinking, and judgment. A study in nonhuman primates showed that exposure to MDMA for only 4 days caused damage to serotonin nerve terminals that was evident 6 to 7 years later. While similar neurotoxicity has not been definitively shown in humans, the wealth of animal research indicating MDMA's damaging properties suggests that MDMA is not a safe drug for human consumption.

Hidden Risk: Drug Purity
Other drugs chemically similar to MDMA, such as MDA (methylenedioxyamphetamine, the parent drug of MDMA) and PMA (paramethoxyamphetamine, associated with fatalities in the U.S. and Australia) are sometimes sold as ecstasy. These drugs can be neurotoxic or create additional health risks to the user. Also, ecstasy tablets may contain other substances in addition to MDMA, such as ephedrine (a stimulant); dextromethorphan (DXM, a cough suppressant that has PCP-like effects at high doses); ketamine (an anesthetic used mostly by veterinarians that also has PCP-like effects); caffeine; cocaine; and methamphetamine. While the combination of MDMA with one or more of these drugs may be inherently dangerous, users might also combine them with substances such as marijuana and alcohol, putting themselves at further physical risk.

Extent of Use

National Survey on Drug Use and Health (NSDUH)*
In 2004, an estimated 450,000 people in the U.S. age 12 and older used MDMA in the past 30 days. Ecstasy use dropped significantly among persons 18 to 25—from 14.8 percent in 2003 to 13.8 percent in 2004 for lifetime use, and from 3.7 percent to 3.1 percent for past year use. Other 2004 NSDUH results show significant reductions in lifetime and past year use among 18- to 20-year-olds, reductions in past month use for 14- or 15-year-olds, and past year and past month reductions in use among females.

Community Epidemiology Work Group (CEWG)**
In many of the areas monitored by CEWG members, MDMA, once used primarily at dance clubs, raves, and college scenes, is being used in a number of other social settings. In addition, some members reported increased use of MDMA among African-American and Hispanic populations.

Monitoring the Future (MTF) Survey ***
Lifetime****** use dropped significantly among 12th-graders in 2005, from 7.5 percent in 2004 to 5.4 percent. The perceived risk in occasional MDMA use declined significantly among 8th-graders in 2005, and perceived

availability decreased among 12th-graders.

Lifetime Prevalence of MDMA Use by Students
Monitoring the Future Survey, 2003–2005

	2003	2004	2005
8th-Graders	3.2%	2.8%	2.8%
10th-Graders	5.4	4.3	4.0
12th-Graders	8.3	7.5	5.4

For more information, please visit www.ClubDrugs.org and www.Teens.drugabuse.gov.

** NSDUH (formerly known as the National Household Survey on Drug Abuse) is an annual survey of Americans age 12 and older conducted by the Substance Abuse and Mental Health Services Administration. Copies of the latest survey are available at www.samhsa.gov and from the National Clearinghouse for Alcohol and Drug Information at 800-729-6686*

*** CEWG is a NIDA-sponsored network of researchers from 21 major U.S. metropolitan areas and selected foreign countries who meet semiannually to discuss the current epidemiology of drug abuse. CEWG's most recent reports are available at www.drugabuse.gov/about/organization/cewg/pubs.html*

**** These data are from the 2005 Monitoring the Future Survey, funded by the National Institute on Drug Abuse, National Institutes of Health, DHHS, and conducted annually by the University of Michigan's Institute for Social Research. The survey has tracked 12th-graders' illicit drug use and related attitudes since 1975; in 1991, 8th- and 10th-graders were added to the study. The latest data are online at www.drugabuse.gov.*

***** "Lifetime" refers to use at least once during a respondent's lifetime. "Annual" refers to use at least once during the year preceding an individual's response to the survey. "30-day" refers to use at least once during the 30 days preceding an individual's response to the survey.*

What Is It?

Ecstasy is a slang term for an illegal drug that has effects similar to those of hallucinogens and stimulants. Ecstasy's scientific name is "MDMA," short for 3,4-methylenedioxymethamphetamine, a name that's nearly as long as the all-night dance club "raves" or "trances" where ecstasy is often used. That's why MDMA is called a "club drug."

MDMA is synthetic—it doesn't come from a plant like marijuana does. MDMA users often make the drug in secret "labs"—in trailers, basements, and even kitchens—hidden around the country. Other chemicals or substances are often added to, or substituted for, MDMA in ecstasy tablets, such as caffeine, dextromethorphan (in some cough syrups), amphetamines, or cocaine. Makers of ecstasy can add anything they want to the drug. So the purity of ecstasy is always in question. [1]

What Are the Common Street Names?

Slang words for MDMA are ecstasy, E, XTC, X, Adam, hug, beans, clarity, lover's speed, and love drug. [1][2]

How Is It Used?

MDMA is usually taken by mouth in a pill, tablet, or capsule. These pills can be different colors, and sometimes the pills have cartoon-like images on them. Some MDMA users take more than one pill at a time, called "bumping." [1][2][3]

How Many Teens Use It?

According to a 2005 NIDA-funded study, many smart teens are turning their backs on MDMA. Since 2001, the percentage of 8th-graders who have ever tried MDMA has dropped from 5.2% in 2001 to 2.8% in 2005. The drop for 10th-graders was from 8.0% in 2001 to 4.0% in 2005, and 12th-graders have had the greatest decrease, from 11.7% in 2001 to 5.4% in 2005. According to 12th-graders, MDMA also seemed to be less available in 2005, which is good; but fewer 8th-graders saw "great risk" in occasionally using MDMA, and that's not so good. It means that 8th-graders may not understand the health risks of using MDMA as well as they should. [4]

Is MDMA Addictive?

Like other stimulant drugs, MDMA appears to have the ability to cause addiction. That is, people continue to take the drug despite experiencing unpleasant physical side effects and other social, behavioral, and health consequences.

No one knows how many times a person can use a drug before becoming addicted or who's most vulnerable to addiction. Genetic makeup, living environment, and other factors probably play a role in a person's susceptibility to addiction

What Are the Common Effects?

In general, NIDA-supported research shows that abuse of any club drugs can cause serious health problems and, in rare instances, even death. Many drug abusers take combinations of drugs, including alcohol, which may further increase their danger.

For most abusers, a "hit" of ecstasy lasts for 3 to 6 hours. Once the pill is swallowed, it takes only about 15 minutes for MDMA to enter the bloodstream and reach the brain. About 45 minutes later, a user experiences MDMA's peak level (high). It's downhill from there, unless the user "bumps" and takes more MDMA. But even if a person takes only one pill, the side effects of MDMA—including feelings of sadness, anxiety, depression, and memory difficulties—can last for several days to a week (or longer in regular MDMA users). [1][2][3]

Initial Effects

MDMA abusers might feel very alert or "hyper" at first. At raves, they can keep on dancing for hours at a time. They may also experience distortions in time and other changes in perception, such as an enhanced sense of touch. Some, however, can become anxious and agitated. Sweating or chills may occur, and MDMA abusers may feel faint or dizzy. [3]

MDMA abusers can also become dehydrated through vigorous activity in a hot environment. MDMA can interfere with the body's ability to regulate its temperature, which can cause dangerous overheating (hyperthermia.) This, in turn, can lead to serious heart, kidney, or liver problems—or, rarely, death. MDMA can be extremely dangerous in high doses, or when multiple small doses are taken within a short time period to maintain the high. Blood levels of the drug can reach very high levels, increasing the risk of hyperthermia and other health risks of MDMA. [2]

Other Effects On the Body

MDMA can also cause muscle tension, clenching of teeth, nausea, blurred vision, fainting, and chills or sweating. It increases heart rate and blood pressure.

Effects On the Mind

MDMA can cause confusion, depression, sleep problems, intense fear, and anxiety. In regular abusers, some of these side effects can last for days or weeks after taking MDMA.

Dangers

MDMA can be dangerous in high doses. It can cause a noticeable increase in body temperature (hyperthermia), which also has been associated with dehydration. Hyperthermia can lead to cardiovascular problems, seizures, liver failure, and muscle breakdown that can cause kidney failure. These have been reported in some fatal cases at raves. [1]

MDMA has been shown to be neurotoxic (damage nerve tissue) in studies using animals. It's not yet known whether this drug is neurotoxic in humans. However, regular users of MDMA have demonstrated memory loss, and this may reflect damage to the neurons that release serotonin, which affects the ability to sleep and helps to regulate mood.

Long-term Effects

Although it is not yet known whether MDMA causes long-term brain damage in humans, or whether the effects are reversible when someone stops using the drug, a study of non-human primates showed that exposure to high doses of MDMA for 4 days produced brain damage that was evident 6 to 7 years later. The study researchers found that some of the damaged nerve fibers grew back, but not necessarily in the same parts of the brain. It's like cutting off a branch of a fruit tree: The tree is still alive and can sprout a new limb somewhere else, but it may not bear as much fruit as the old one.

Risks to the Brain

Brain imaging research in humans indicates that MDMA may affect neurons that use serotonin to communicate with other neurons. The serotonin system plays a direct role in regulating mood, aggression, sexual activity, sleep, and sensitivity to pain. [5, 6]

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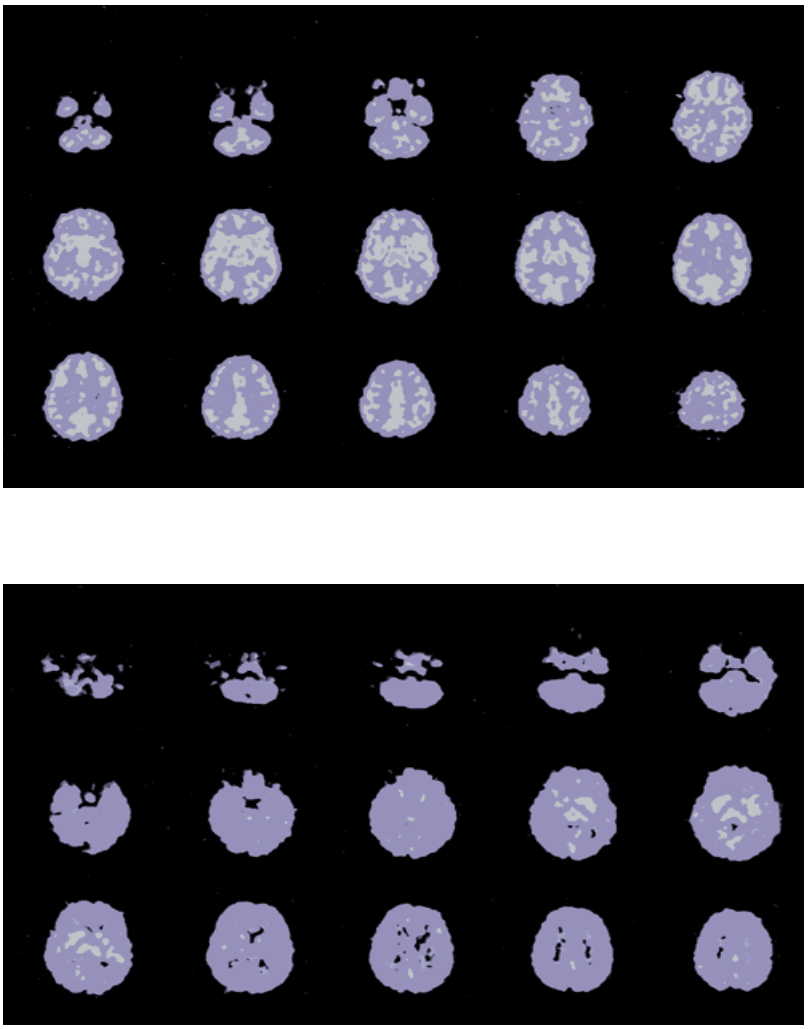
"Ecstasy" Damages the Brain and Impairs Memory in Humans

By Robert Mathias, NIDA NOTES Staff Writer

A NIDA-supported study has provided the first direct evidence that chronic use of MDMA, popularly known as "ecstasy," causes brain damage in people. Using advanced brain imaging techniques, the study found that MDMA harms neurons that release serotonin, a brain chemical thought to play an important role in regulating memory and other functions. In a related study, researchers found that heavy MDMA users have memory problems that persist for at least 2 weeks after they have stopped using the drug. Both studies suggest that the extent of damage is directly correlated with the amount of MDMA use.

"The message from these studies is that MDMA does change the brain and it looks like there are functional consequences to these changes," says Dr. Joseph Frascella of NIDA's Division of Treatment Research and Development. That message is particularly significant for young people who participate in large, all-night dance parties known as "raves," which are popular in many cities around the Nation. NIDA's epidemiologic studies indicate that MDMA (3,4-methylenedioxymethamphetamine) use has escalated in recent years among college students and young adults who attend these social gatherings.

In the brain imaging study, researchers used positron emission tomography (PET) to take brain scans of 14 MDMA users who had not used any psychoactive drug, including MDMA, for at least 3 weeks. Brain images also were taken of 15 people who had never used MDMA. Both groups were similar in age and level of education and had comparable numbers of men and women.



These brain scans show the amount of serotonin activity over a 40-minute period in a non-MDMA user (top) and an MDMA user (bottom). Dark areas in the MDMA user's brain show damage due to chronic MDMA use.

In people who had used MDMA, the PET images showed significant reductions in the number of serotonin transporters, the sites on neuron surfaces that reabsorb serotonin from the space between cells after it has completed its work. The lasting reduction of serotonin transporters occurred throughout the brain, and people who had used MDMA more often lost more serotonin transporters than those who had used the drug less.

Previous PET studies with baboons also produced images indicating MDMA had induced long-term reductions in the number of serotonin transporters. Examinations of brain tissue from the animals provided further confirmation that the decrease in serotonin transporters seen in the PET images corresponded to actual loss of serotonin nerve endings containing transporters in the baboons' brains. "Based on what we found with our animal studies, we maintain that the changes revealed by PET imaging are probably related to damage of serotonin nerve endings in humans who had used MDMA," says Dr. George Ricaurte of The

Johns Hopkins Medical Institutions in Baltimore. Dr. Ricaurte is the principal investigator for both studies, which are part of a clinical research project that is assessing the long-term effects of MDMA.

"The real question in all imaging studies is what these changes mean when it comes to functional consequences," says NIDA's Dr. Frascella. To help answer that question, a team of researchers, which included scientists from Johns Hopkins and the National Institute of Mental Health who had worked on the imaging study, attempted to assess the effects of chronic MDMA use on memory. In this study, researchers administered several standardized memory tests to 24 MDMA users who had not used the drug for at least 2 weeks and 24 people who had never used the drug. Both groups were matched for age, gender, education, and vocabulary scores.

The study found that, compared to the nonusers, heavy MDMA users had significant impairments in visual and verbal memory. As had been found in the brain imaging study, MDMA's harmful effects were dose-relatedÑthe more MDMA people used, the greater difficulty they had in recalling what they had seen and heard during testing.

The memory impairments found in MDMA users are among the first functional consequences of MDMA-induced damage of serotonin neurons to emerge. Recent studies conducted in the United Kingdom also have reported memory problems in MDMA users assessed within a few days of their last drug use. "Our study extends the MDMA-induced memory impairment to at least 2 weeks since last drug use and thus shows that MDMA's effects on memory cannot be attributed to withdrawal or residual drug effects," says Dr. Karen Bolla of Johns Hopkins, who helped conduct the study.

The Johns Hopkins/NIMH researchers also were able to link poorer memory performance by MDMA users to loss of brain serotonin function by measuring the levels of a serotonin metabolite in study participants' spinal fluid. These measurements showed that MDMA users had lower levels of the metabolite than people who had not used the drug; that the more MDMA they reported using, the lower the level of the metabolite; and that the people with the lowest levels of the metabolite had the poorest memory performance. Taken together, these findings support the conclusion that MDMA-induced brain serotonin neurotoxicity may account for the persistent memory impairment found in MDMA users, Dr. Bolla says.

Research on the functional consequences of MDMA-induced damage of serotonin-producing neurons in humans is at an early stage, and the scientists who conducted the studies cannot say definitively that the harm to brain serotonin neurons shown in the imaging study accounts for the memory impairments found among chronic users of the drug. However, "that's the concern, and it's certainly the most obvious basis for the memory problems that some MDMA users have developed," Dr. Ricaurte says.

Findings from another Johns Hopkins/NIMH study now suggest that MDMA use may lead to impairments in other cognitive functions besides memory, such as the ability to reason verbally or sustain attention. Researchers are continuing to examine the effects of chronic

MDMA use on memory and other functions in which serotonin has been implicated, such as mood, impulse control, and sleep cycles. How long MDMA-induced brain damage persists and the long-term consequences of that damage are other questions researchers are trying to answer. Animal studies, which first documented the neurotoxic effects of the drug, suggest that the loss of serotonin neurons in humans may last for many years and possibly be permanent. "We now know that brain damage is still present in monkeys 7 years after discontinuing the drug," Dr. Ricaurte says. "We don't know just yet if we're dealing with such a long-lasting effect in people."

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GHB (Gamma Hydroxy Butyrate)

Common names: The "date-rape" drug, grievous bodily harm, liquid ecstasy, liquid X, easy lay, "G," etc.

What is it?

GHB is created naturally in the human body in small quantities. When larger amounts are ingested (and combined with other drugs and/or alcohol) it is very dangerous. In the liquid form, GHB looks and smells like water with a salty taste. GHB can also be in white power or capsule form. GHB has been used to increase one's sensuality and physical responsiveness. It acts by depressing the central nervous system.

Short-term effects

The short-term effects of using GHB can slow down one's breathing and heart rate and in some cases stops these functions altogether. Maintaining the dosage is difficult and it is very easy to overdose. Large quantities of GHB can cause nausea, vomiting, dizziness, amnesia and vertigo. Higher doses can place a person in a coma-like state. The heavy user is at risk for vomiting while sleeping and choking to death.

Long-term effects

Long-term effects of using GHB are unknown at this time. It has been noted to be an addictive substance that can cause physical dependence. Quitting suddenly can cause anxiety, insomnia, paranoia, and hallucinations. GHB overdoses can cause a reduced heart rate and the ability to breathe, a loss of consciousness, seizures, coma and death.

Signs of usage

Sleepiness, nausea, vomiting, dizziness, amnesia, vertigo, sensitivity to touch, etc.

Legal status

GHB is not legal to purchase, sell, or consume in the United States. For more information see the Section VII for additional resources.

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

Rohypnol

Common names: A "date-rape" drug, roofies, roachies, La Rocha, ruffies, ropes, pappas, ro-shays, robinal, the forget pill, pastaa, peanuts, etc.

What is it?

Rohypnol is the name brand for flunitrazepam. It is a benzodiazepine medicine that has sedative effects. Recently it has been discovered that it is given secretly to make a person unable to defend himself or herself from a sexual assault. The tablet form is common. Since 1999, these tablets have been adjusted to dissolve slower, make clear beverages blue, and make dark beverages murky so it is easier to detect. Some may use these drugs to increase sensuality and one's physical responses. When Rohypnol is combined with alcohol and/or other drugs the increased effects can cause death.

Short-term effects

The short-term effects of using Rohypnol may cause a person to feel drowsy, relaxed, dizzy, confused, and uncoordinated. It may also cause a person to become unconscious or to blackout anywhere from eight to twenty-four hours. Users may appear to be intoxicated or "drunk." A reduction in one's inhibitions and judgment has been indicated. The effects of the drug usually are felt within the first thirty minutes. The peak is after about two hours and typically lasts for around eight hours in duration.

Long-term effects

The long-term effects of using Rohypnol can cause physical dependency.

Signs of usage

Slurred speech, physical weakness, severe drowsiness, and difficulties in walking, drowsiness, dizziness, confusion, lack of coordination, etc.

Legal status

Rohypnol is not legal to purchase, sell, or consume in the United States.

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

Ketamine

Common names

A "date-rape" drug, drug special, K, special K, vitamin K, baby food, kit kat, ketalar, ketaset, bump, cat Valium, jet, honey oil, super acid, purple, special la coke, green, etc.

What is it?

Ketamine is an anesthetic and a painkiller that is fast acting. It was designed for use in veterinary medicine and in other special medical procedures. This drug has been used like GHB to render an individual unable to fend off a sexual assault. Generally Ketamine is found in the liquid form but can also be in the form of a white pill or powder. The powder has been used to slip into one's drink, is injected, smoked, and/or snorted.

Short-term effects

The short-term effects of Ketamine are experienced within ten minutes of ingesting the drug. The effects vary with the quantity ingested. The prevention of pain and vomiting typically occurs. When the user eats or drinks prior to taking Ketamine, it increases the change of choking on one's own vomit. Higher doses cause lack of coordination, babbling, temporary amnesia, and a reduction of the heartbeat. What this indicates is that less oxygen is getting to the brain and muscles in the person's body. Unconsciousness and death are possible from only one use. Tolerance can be developed with repeated usage.

Long-term effects

The long-term effects of Ketamine are unknown at this time.

Signs of usage

Feelings of being withdrawn, sleepiness, distraction and confusion are common symptoms. A person may have perceptual distortions with regard to time and their body.

Legal status

Ketamine is only legal for veterinarians and doctor's medical use. Purchasing, selling, or using this drug, without the consent of a physician, is illegal in the United States.

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

Opiates (Opioids, Narcotics)

Common names: Heroin = junk, horse, smack, H, skag, shit, mud, black tar, dope, mojo, brown, etc. Morphine = M, morph, Miss Emma, etc.
Methadone = Meth, etc.

What is it?
The family of drugs derived from the opium poppy is commonly referred to as narcotics. Opiates are natural substances that come from the opium poppy flower and also synthetic drugs such as meperidine (Demerol®), codeine and methadone. Doctors prescribe these drugs to help people who need relief from pain.

Short-term effects
The short-term effect of using opiates causes stimulation in the brain while the central nervous system is depressed. Initially there is a pleasurable feeling or rush, which is followed by one's thinking and reaction time to be slowed down considerably. Outcomes of using opiates include restlessness, nausea, vomiting, dry mouth, warm feelings in the body, heavy feelings of extremities, lack of consciousness, slower breath rate, constricted pupils, depression, cold skin that is moist and blue in color, coma, convulsions, and death. The potential to overdose is very high.

Long-term effects
The long-term effects from using opiates can cause infections, dependency, a reduction in respiration, and overdose. Using dirty needles causes some infections, which can lead to contracting HIV, AIDS, and other serious illnesses. Drug dependency and severe withdrawal symptoms are common. Slow, shallow breathing, clammy skin, convulsions, coma, and/or death can be caused by an overdose of these types of drugs.

Signs of usage
Scars (called "tracks") from injections, constricted pupils, loss of appetite, sniffles, watery eyes, cough, nausea, drowsiness, restlessness, etc.

Legal status
Doctors can prescribe opiates for specific medical conditions. However the use, purchase, or sale of these drugs is illegal without a prescription in the United States.

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

Opium information

Opium is the crudest form and also the least potent of the Opiates. Opium is the milky latex fluid contained in the un-ripened seed pod of the opium poppy. As the fluid is exposed to air, it hardens and turns black in color. This dried form is typically smoked, but can also be eaten. Opium is grown mainly in Myanmar (formerly Burma) and Afghanistan.

Today opium is sold on the street as a powder or dark brown solid and is smoked, eaten, or injected.

Opium addiction

The powerful prescription pain reliever has become a hot new street drug that has resulted in more than 120 deaths nationwide. It will give you a high much like HIGH GRADE heroin but with worse consequences. 5mg of OXY has has as much active ingredient (oxycodone) as one Percocet. So chewing/snorting a 40mg OXY is like taking 8 Percocet at once or a 80mg Oxy is like taking 16 Percocet all at once.

Opium should be used to fight extreme pain. Doctors commonly prescribe it to cancer patients as an alternative to morphine. The drug is addictive, expensive, and when misused, it can be lethal. Opium abuse is becoming an epidemic in several rural states.

Physical dependence, which is sometimes unavoidable, develops when an individual is exposed to a drug at a high enough dose for long enough that the body adapts and develops a tolerance for the drug. This means that higher doses are needed to achieve a drug's original effects. If the patient stops taking the drug, withdrawal will occur. Just like heroin it is almost impossible to do alone as the withdrawal symptoms of Opium are worse than heroin and last longer. Professional help from a heroin detox center is the best and safest way to do this but there is NO painless way.

Drug craving is the result of the drug's imprinting in the memory of a pleasant association of euphoria with the drug. The subconscious memory then motivates the individual to seek this drug because of the false imprint. The brain, in effect, has been trained that using the drug is the fastest way to feel good. This learning process then produces a new appetite or drive to seek the drug which we call craving. This craving is most often activated by, a) memory of pleasure, b) when we feel bad and have a habit of using the drug to rapidly feel good, c) when we are in a situation with people, places and activities in which a previous habit pattern of drug use has been established.

Prescription drugs, like other addictive drugs, are able to short-circuit your survival system by artificially stimulating the reward center, or pleasure areas in your brain, without anything beneficial happening to your body. As this happens, it leads to increased confidence in the drug, and less confidence in the normal rewards of life. This first happens on a physical level. Then, it affects you psychologically. The big drug lie results in decreased interest in other aspects of life, as you increase your reliance and interest in the drug. People, places and activities involved with using drugs become more important. People, places and activities or lifestyles that worked through your normal reward system, before using the drug, become less important to you. After a while, a

heavy drug user will actually resent people, places, and activities that do not fit in with that drug use.

Addictive drugs mimic the action of chemicals your brain produces to send messages of pleasure to your brain's reward center. They produce an artificial feeling of pleasure. Most addictive drugs are able to produce pleasurable effects by chemically acting like certain normal brain messenger chemicals, which produce positive feelings in response to signals from the brain.

The result is a dependence on the immediate, fast, predictable drug which, at the same time, short circuits interests in and the motivation to make life's normal rewards work. More and more confidence is placed in the drug while other survival feelings are ignored and bypassed. The result of this addiction cycle is a lack of concern for, and confidence in, other areas of life.

Opium abuse

The power painkiller Opium is being abused by more and more people across the nation. The heroin-like effects of the drug attract both legitimate and illegitimate users.

Opium abuse is spreading for a variety of reasons. First, the elevated opiate dosage makes it highly addictive. Second, in contrast to drugs such as cocaine or heroin that can be laced with other substances, with Opium you know how much of the drug you are getting; the dosage is consistent, so it is a dependable high. Finally, Opium is covered by most health insurance plans, so it is significantly cheaper than street drugs. (Opium has been referred to as "hillbilly heroin" or "the poor man's heroin.")

Common signs and side effects of opium use

Being of similar structure, the opiate molecules occupy many of the same nerve-receptor sites and bring on the same analgesic effect as the body's natural painkillers. Opiates first produce a feeling of pleasure and euphoria, but with their continued use the body demands larger amounts to reach the same sense of well-being.

Some of the illnesses associated with addiction are:

- malnutrition
- respiratory complications
- low blood pressure

Common symptoms of opium withdrawal and overdose

Withdrawal is extremely uncomfortable, and addicts typically continue taking the drug to avoid pain rather than to attain the initial state of euphoria.

Overdose symptoms include:

- slow breathing
- seizures
- dizziness
- weakness
- loss of consciousness
- coma
- confusion
- tiredness
- cold and clammy skin
- small pupils

Opium addiction

Opium is highly addictive. Tolerance (the need for higher and higher doses to maintain the same effect) and physical and psychological dependence develop quickly. Withdrawal from opium causes nausea, tearing, yawning, chills, and sweating.

As long ago as 100 AD, opium had been used as a folk medicine, taken with a beverage or swallowed as a solid. Only toward the middle of the 17th century, when opium smoking was introduced into China, did any serious addiction problems arise. In the 18th century opium addiction was so serious there that the Chinese made many attempts to prohibit opium cultivation and opium trade with Western countries. At the same time opium made its way to Europe and North America, where addiction grew out of its prevalent use as a painkiller.

Cocaine

Common names: Crack, C, coke, flake, dust, blow, nose candy, rock, white lines, etc.

What is it?

Cocaine is a fine white powder that is processed from the leaves of the coca plant. Typically it is snorted but can also be injected. Crack is a derivative of cocaine that is made by mixing cocaine with baking powder, soda and water to form a cake-like substance. This cake is broken down or cracked into small crystals about the size of a peanut. These small crystals are then smoked (also called freebasing) typically in a glass pipe. Cocaine is a forceful drug that arouses the central nervous system. A cocaine "high" usually last for only five to twenty minutes long, and each time the user needs more to obtain the "high."

Short-term effects

The short-term effects of cocaine cause a burst of energy and decrease in one's appetite. The user may feel more alert but this is just an effect of the drug and not a reality. There is a risk of stroke caused by an increase in one's heart rate and blood pressure. Strange behavior and violent acts have been connected with cocaine usage. Paranoid psychosis is possible as well as seizures and/or convulsions. Crack cocaine has been found to be instantly addictive. One use of cocaine and/or crack cocaine can cause a fatal heart attack. The risk of overdose is extremely high.

Long-term effects

The long-term effects from using cocaine may cause the individual's nose tissues to deteriorate (from repeated snorting of the drug). Tolerance and dependency develop quickly as well as the risk of overdosing. Users who inject the drug may contract AIDS, HIV, or other serious medical conditions. A paranoid psychosis may develop that can be irreversible and permanent.

Signs of usage

A person's pupils may appear larger than normal, mood swings and irritability, carefree attitude, talkativeness, euphoria, etc.

Legal status

The legal use of cocaine in the United States is for medical application only. Some medical procedures such as nasal surgeries use the drug to help reduce the pain of surgery. Possessing, purchasing, using, selling, etc. is illegal.

(Adapted from A Parent & Community Handbook, 4th Edition, Parents Against Drugs (PAD) Toronto, Canada, 1999).

Cocaine is a powerfully addictive stimulant drug. The powdered, hydrochloride salt form of cocaine can be snorted or dissolved in water and injected. Crack is cocaine that has not been neutralized by an acid to make the hydrochloride salt. This form of cocaine comes in a rock crystal that can be heated and its vapors smoked. The term "crack" refers to the crackling sound heard when it is heated.*

Regardless of how cocaine is used or how frequently, a user can experience acute cardiovascular or cerebrovascular emergencies, such as a heart attack or stroke, which could result in sudden death. Cocaine-related deaths are often a result of cardiac arrest or seizure followed by respiratory arrest.

Health Hazards

Cocaine is a strong central nervous system stimulant that interferes with the reabsorption process of dopamine, a chemical messenger associated with pleasure and movement. The buildup of dopamine causes continuous stimulation of receiving neurons, which is associated with the euphoria commonly reported by cocaine abusers.

Physical effects of cocaine use include constricted blood vessels, dilated pupils, and increased temperature, heart rate, and blood pressure. The duration of cocaine's immediate euphoric effects, which include hyperstimulation, reduced fatigue, and mental alertness, depends on the route of administration. The faster the absorption, the more intense the high. On the other hand, the faster the absorption, the shorter the duration of action. The high from snorting may last 15 to 30 minutes, while that from smoking may last 5 to 10 minutes. Increased use can reduce the period of time a user feels high and increases the risk of addiction.

Some users of cocaine report feelings of restlessness, irritability, and anxiety. A tolerance to the "high" may develop—many addicts report that they seek but fail to achieve as much pleasure as they did from their first exposure. Some users will increase their doses to intensify and prolong the euphoric effects. While tolerance to the high can occur, users can also become more sensitive to cocaine's anesthetic and convulsant effects without increasing the dose taken. This increased sensitivity may explain some deaths occurring after apparently low doses of cocaine.

Use of cocaine in a binge, during which the drug is taken repeatedly and at increasingly high doses, may lead to a state of increasing irritability, restlessness, and paranoia. This can result in a period of full-blown paranoid psychosis, in which the user loses touch with reality and experiences auditory hallucinations.

Other complications associated with cocaine use include disturbances in heart rhythm and heart attacks,

chest pain and respiratory failure, strokes, seizures and headaches, and gastrointestinal complications such as abdominal pain and nausea. Because cocaine has a tendency to decrease appetite, many chronic users can become malnourished.

Different means of taking cocaine can produce different adverse effects. Regularly snorting cocaine, for example, can lead to loss of the sense of smell, nosebleeds, problems with swallowing, hoarseness, and a chronically runny nose. Ingesting cocaine can cause severe bowel gangrene due to reduced blood flow. People who inject cocaine can experience severe allergic reactions and, as with all injecting drug users, are at increased risk for contracting HIV and other blood-borne diseases.

Added Danger: Cocaethylene
When people mix cocaine and alcohol consumption, they are compounding the danger each drug poses and unknowingly forming a complex chemical experiment within their bodies. NIDA-funded researchers have found that the human liver combines cocaine and alcohol and manufactures a third substance, cocaethylene, that intensifies cocaine's euphoric effects, while potentially increasing the risk of sudden death.

Treatment

The widespread abuse of cocaine has stimulated extensive efforts to develop treatment programs for this type of drug abuse.

One of NIDA's top research priorities is to find a medication to block or greatly reduce the effects of cocaine, to be used as one part of a comprehensive treatment program. NIDA-funded researchers are also looking at medications that help alleviate the severe craving that people in treatment for cocaine addiction often experience. Several medications are currently being investigated for their safety and efficacy in treating cocaine addiction.

In addition to treatment medications, behavioral interventions—particularly cognitive behavioral therapy—can be effective in decreasing drug use by patients in treatment for cocaine abuse. Providing the optimal combination of treatment and services for each individual is critical to successful outcomes.

Extent of Use

Monitoring the Future (MTF) Survey **
Lifetime,*** annual, and 30-day cocaine use remained stable among all three grades in 2005. Perceived harmfulness of occasional use also remained stable in 2005, measuring at 65.3 percent among 8th-graders, 72.4 percent among 10th-graders, and 60.8 percent among 12th-graders.

Use of Cocaine in *Any Form* by Students, 2005:
Monitoring the Future Survey

	8th-Graders	10th-Graders	12th-Graders
Lifetime	3.7%	5.2%	8.0%
Annual	2.2	3.5	5.1
30-Day	1.0	1.5	2.3

Crack Cocaine Use by Students, 2005:
Monitoring the Future Survey

	8th-Graders	10th-Graders	12th-Graders
Lifetime	2.4%	2.5%	3.5%
Annual	1.4	1.7	1.9
30-Day	0.6	0.7	1.0

Community Epidemiology Work Group (CEWG)****

Cocaine-related death mentions in 2003 were particularly high in New York City/Newark, Detroit, Boston, and Baltimore, as measured by one Federal data source. Reports from local medical examiner data named Texas and Philadelphia as sites with the highest rates of cocaine-related deaths from 2003 through 2004.

Primary cocaine treatment admissions in 2004 accounted for 52.5 percent of treatment admissions, excluding alcohol, in Atlanta, 38.9 percent in New Orleans, and approximately 36 percent in Texas and Detroit.

National Survey on Drug Use and Health (NSDUH)*****

In 2004, 34.2 million Americans aged 12 and over reported lifetime use of cocaine, and 7.8 million reported using crack. About 5.6 million reported annual use of cocaine, and 1.3 million reported using crack. An estimated 2 million Americans reported current use of cocaine, 467,000 of whom reported using crack. There were an estimated 1 million new users of cocaine in 2004 (approximately 2,700 per day), and most were aged 18 or older although the average age of first use was 20.0 years.

The percentage of youth ages 12 to 17 reporting lifetime use of cocaine was 2.4 percent in 2004. Among young adults aged 18 to 25, the rate was 15.2 percent, showing no significant difference from the previous year.

However, there was a statistically significant decrease in perceived risk of using cocaine once a month among Americans in the 12 to 17 age bracket in 2004.

Past month crack use was down for 16- or 17-year-olds but up for 21- to 25-year-olds; 21-year-olds also showed increases in past year use of both crack and cocaine.

Past month use of cocaine was down among females aged 12–17 and Asians 12 or older, but up among Blacks aged 18 to 25. There was a decrease in past year cocaine use measured among Asians aged 18 to 25.

Following a decline between 2002 and 2003, NSDUH data show an increase in the number of people receiving treatment for a cocaine use problem during their most recent treatment at a specialty facility, from 276,000 in 2003 to 466,000 in 2004.

** Snorting is the process of inhaling cocaine powder through the nose, where it is absorbed into the bloodstream through the nasal tissues. Injecting is the use of a needle to release the drug directly into the bloodstream; any needle use increases a user's risk of contracting HIV and other blood-borne infections. Smoking involves inhaling cocaine vapor or smoke into the lungs, where absorption into the bloodstream is as rapid as by injection.*

*** These data are from the 2005 Monitoring the Future survey, funded by the National Institute on Drug Abuse, National Institutes of Health, DHHS, and conducted annually by the University of Michigan's Institute for Social Research. The survey has tracked 12th-graders' illicit drug use and related attitudes since 1975; in 1991, 8th- and 10th-graders were added to the study. The latest data are online at www.drugabuse.gov.*

**** "Lifetime" refers to use at least once during a respondent's lifetime. "Annual" refers to use at least once during the year preceding an individual's response to the survey. "30-day" refers to use at least once during the 30 days preceding an individual's response to the survey*

***** CEWG is a NIDA-sponsored network of researchers from 21 major U.S. metropolitan areas and selected foreign countries who meet semiannually to discuss the current epidemiology of drug abuse. CEWG's most recent reports are available at http://www.drugabuse.gov/about/organization/cewg/pubs.html.*

****** NSDUH (formerly known as the National Household Survey on Drug Abuse) is an annual survey of Americans age 12 and older conducted by the Substance Abuse and Mental Health Services Administration. Copies of the latest survey are available at www.samhsa.gov and from the National Clearinghouse for Alcohol and Drug Information at 800-729-6686*

LSD (lysergic acid diethyl amide)

Common names: Acid, sid, yellow sunshine, California sunshine, blotter, dots, microdots, window pane, sugar cubes, trips – the effect of using the drug is called "tripping"

What is it?

LSD is an odorless, clear or white water-soluble material that has been synthesized from lysergic acid (found in rye fungus). Effects of this drug can last for hours. LSD starts out as a crystal-like substance that can be crushed into powder. In most cases, this powder is dissolved and diluted and then transferred to sheets of perforated paper (like quarter-inch postage stamps).

Short-term effects

The short-term effects of taking LSD begin within thirty to ninety minutes. Most of these trips can include both positive and negative experiences due to the intense hallucinations. The effects are highly unpredictable and may cause alterations in one's personality, mood, expectations, and surroundings. Users have experienced an increase in blood pressure, heart rate, dizziness, and loss of appetite, dry mouth, sweating, nausea, numbness, and tremors. The most notable effects are on a person's emotions and sensory perceptions. Many users have experienced "bad trips," a nightmare-like state of anxiety, paranoia and fear of insanity and/or death.

Long-term effects

Some people have reported psychosis and other psychological effects that can last long after the trip has ended. This can produce a long-lasting psychotic-like state that may include manic-depressive symptoms and/or episodes. These effects can last for years in those who have no other psychological predispositions. Some long-term users of LSD have reported "flashbacks." Physicians have labeled these flashbacks as Hallucinogen Persisting Perception Disorder, which are continuous and reoccurring sensory distortions and hallucinations. At this time, there is no treatment available to assist with this problem, however some medications can help to reduce the symptoms.

Signs of usage

Some users may appear to be experiencing several emotions simultaneously. A person's senses may become distorted and highly sensitive to colors, smells, lights, and sounds. Pupils are dilated and the person may be giddy, jittery, nauseous, numbness of the face and lips, changes in coordination, have chills, or laugh for no reason.

Legal status

Possessing, purchasing, using, selling, LSD is illegal in the United States.

(Adapted from *Hallucinogens and Dissociative Drugs: Including LSD, PCP, Ketamine, Dextromethorphan*, Research Report Series, National Institute on Drug Abuse, U.S. Department of Health and Human Services, National Institute of Health, NIH Publication Number 01-4209, March 2001).

PCP

Common names: Angel, angel dust, boat, dummy dust, love boat, peace, supergrass, zombie, etc.

What is it?

PCP is classified as a dissociative anesthetic. It is a sedative that was available in pill form in the 1960s. Today it is primarily found in powder form that is often sprinkled on marijuana cigarettes, tobacco, or other herbs and then smoked. It can also be snorted. It is also available in a rock-like form. PCP alters the neurotransmitters in the brain causing a feeling of euphoria.

Short-term effects

The short-term effects of PCP are a feeling of having an "out-of-body" experience. PCP can cause shallow, rapid breathing, an increase in heart rate, blood pressure and body temperature. The user may feel dizzy, nauseous, uncoordinated, and have blurred vision and/or hallucinations. The person can experience severe muscle contractions that can cause a bone fracture, kidney damage or kidney failure. Higher doses can cause convulsions, coma, hypothermia, violent episodes, and death.

Long-term effects

The long-term usage of PCP can cause addiction and withdrawal syndrome. Using this drug long-term can cause memory loss, depression, disorientation, and suicidal tendencies.

Signs of usage

Multiple and dramatic behavioral changes, acting drunk, euphoria, dissociative state (out of touch with reality), lack of coordination and reflexes, dizziness, nausea, etc.

Legal status

Possessing, purchasing, using, selling, PCP is illegal in the United States. Penalties are severe.

(Adapted from *Hallucinogens and Dissociative Drugs: Including LSD, PCP, Ketamine, Dextromethorphan*, Research Report Series, National Institute on Drug Abuse, U.S. Department of Health and Human Services, National Institute of Health, NIH Publication Number 01-4209, March 2001).

Methamphetamines

Common names: Meth, speed, crank, crystal, tweak, ice, glass, uppers, etc.

What is it?

Methamphetamines are drugs that are used to increase alertness, relieve fatigue, etc. In most cases, it is found in the form of a pill or powder. The powder will appear coarse and has a yellowish tint. The user may snort, smoke, take orally, or inject the drug. Due to the ignitable, corrosive, and toxic nature of the chemicals used to make this drug, there is a high risk of fires, toxic fumes, and environmental damage from the process.

Short-term effects

Much like cocaine, using methamphetamines will give an instant feeling of euphoria or "rush." It arouses the central nervous system by creating a false sense of energy. The user will have an increase in heart rate, blood pressure, energy, blurred vision, restlessness, delusions, loss of coordination, risk of stroke, and experience mind and mood changes such as anxiety and depression, etc. The initial euphoric state is typically followed by a severe "crash" once the effects wear off. From one usage, death can result from a stroke, and physical and psychological addiction may develop. There is a high risk of overdose.

Long-term effects

The long-term effects from using any type of amphetamines can include chronic fatigue, paranoia or delusional thoughts/thinking, and permanent psychological damage. These drugs have been found to be as addictive and more powerful than crack cocaine. Liver, kidney, brain, and lung damage has been found to be associated with methamphetamine usage. Withdrawal syndrome is common with apathy, long periods of sleep, irritability, and/or depression. Users can have irreversible damage to blood vessels in the brain and risk a heart attack and/or stroke.

Signs of usage

Restlessness, nervousness, irritability, dizziness, confusion, lack of appetite and/or anorexia, increased sensitivity to sounds, paranoia, argumentativeness, dilated pupils, increase in blood pressure and pulse rate, long periods without sleeping or eating, etc.

Legal status

Methamphetamines are illegal in the United States.

(Adapted from *Tips for Teens: The Truth about Methamphetamine*. SAMHSA's National Clearinghouse for Alcohol and Drug Information, United States Department of Health and Human Services, 2000).

Meth devastates the user's health in a short time.

Watch for Meth Use

Symptoms of meth use include...

- inability to sleep
- heightened sensitivity to noise, scratching
- anorexia
- tremors or convulsions
- rapid eye movement

Parents should seek help if they notice these symptoms in their children. Meth is too addictive for kids to "grow out of."

If you can't avoid a person who seems to be on meth, move slowly, speak softly and slowly, keep your hands visible and use extreme caution.

Meth: Speeding toward death

Speed, chalk, crank, glass, ice, sketch, lemon drop, crystal – If you don't recognize these common names for methamphetamine (meth), you might not recognize the makeshift "lab" manufacturing it next door to you. After a friend or relative uses meth, you might not recognize them either.

What is meth?

A homemade, highly addictive, extremely damaging drug, methamphetamine (meth) can come in powder form or be crystalline like rock candy. It may be inhaled, smoked, swallowed or injected.

Meth is made from a cooked slurry of ingredients that might include cold medicine, battery acid, brake cleaner, anhydrous ammonia, drain cleaner, or other caustic and hazardous materials. So it's no surprise that it can devastate the health of someone who uses it, the people who make it, and the children who live and play nearby.

Why do people try it?

Some people, especially young women, first take meth thinking it will help them overcome shyness or lose weight. Because it is quickly addicting, experimentation can have disastrous results.

The rush-high-crash cycle

Taking methamphetamine (meth) can put even the first-time user into a rush-high-crash cycle.

1. The drug very quickly produces an intense, euphoric **rush**.
2. A **high** – a feeling of energy, alertness and well-being –may last up to 12 hours or more.
3. The high is followed by a **crash** of intense agitation, depression, paranoia or anxiety, and consequently a craving for more of the drug.

This cycle makes people spiral into heavy usage, during which they may not eat or sleep for days at a time.

Photo courtesy of Wright County Sheriff's Office

Children live in more than half of homes where meth labs are found.

Highly addictive

It's not unusual for people to become addicted to methamphetamine (meth) the first time they use it.

"Unlike heroin and many other drugs, there are no medications known to help people stop craving meth," says Tracy Powell, MD, emergency physician at Buffalo Hospital.

The effects linger in the body for a long time, exceeding the length of many treatment plans. Addicts are often so violent, exhausted and ill when they start treatment, they aren't able to stay awake, much less participate in therapy.

Ruins the user's health

Meth users may experience convulsions, high body temperature, stroke, shaking, stomach cramps, heart damage, blood vessel damage and more.

Long-term users may have auditory hallucinations, paranoia, and violent rages. They may feel like bugs are crawling under their skin and scratch at them. Permanent brain damage, extreme anorexia, skin abscesses, tooth and bone loss, suicidal tendencies and violent behavior are common effects of meth.

Generates violent crime

Meth users are often very violent as a result of the drug and their hallucinations. They often steal materials to make meth, or to buy meth. Domestic abuse is common in homes where meth is used.

A big problem, growing fast

Meth-related adult court case filings in Minnesota rose 736 percent between 1999 and 2004. Treatment admissions for meth rose 292 percent between 1999 and 2003.

In Wright County alone, up to 75 percent of all crime is meth-related.

"Meth can be made anywhere, even in the back of a car, so it's difficult for law enforcement agencies to find meth labs," says Gary Miller, Wright County sheriff.

Neighborhood Safety

Report suspicious sites to police. Clues include...

- secretive or unfriendly occupants
- frequent visitors, especially at unusual times
- chemical smells
- trash including chemical containers, coffee filters, cold medicine packaging, duct tape rolls, and red-stained cloth
- blacked out windows

Do not enter or approach any suspicious site yourself, touch any suspicious materials or interact with anyone there.

Karla Heeter, Wright County commissioner, adds, "In the past 10 years, more than 100 meth labs were seized in Wright County, costing taxpayers nearly a half a million dollars in toxic waste clean-up efforts on top of the personal toll this drug takes on its users and their families."

Damaging the environment, families

The process of cooking flammable, caustic chemicals not only makes toxic vapors, but can start fires or cause explosions. In fact, 15 percent of meth labs are discovered because of a fire or explosion.

Making one pound of meth produces about five pounds of toxic waste, most of which are illegally and irresponsibly disposed of.

Children live in more than half of homes where meth labs are found. Besides being taken from their homes, these kids (as well as adults) must be decontaminated – all traces of chemical residue washed off – and given clean clothes before they can be treated.

What's being done?

To reduce access to methamphetamine (meth) ingredients, many pharmacies and retailers, including Allina Community Pharmacies, are placing pseudoephedrine and ephedrine products behind counters. Legislation has been proposed to more tightly control those medicines.

Community efforts like Wright County's MEADA (Methamphetamine Education and Drug Awareness) Coalition educate and involve citizens in the fight against meth. For more information, visit www.meada.org or call 763-682-7713.

Buffalo Hospital, Healthy Communities Magazine, volume 11, number 3, fall 2005; MEADA Coalition

normal prescribed use. However, people discovered methamphetamines made them feel relaxed and began using the drugs recreationally. Abusers grind pills into powder, which they then snort like cocaine, or they dissolve it into a liquid and inject it.

Hall and colleagues also support investigating whether certain prescription drugs might be used to treat meth abuse.

SOURCE: **University of Iowa Health Science Relations New Release**

Meth Treatment Takes More Time

Methamphetamine Effects Linger Longer After Abstinence

Methamphetamine abusers do not necessarily need specialized treatment but do need more time in intensive outpatient or residential drug treatment programs than they normally receive under current practices.

University of Iowa researchers made the recommendation for longer treatment times for meth abusers and identified **areas** of research that could help improve treatment, including retention and new drug therapies.

"In reviewing studies we found that treatment does work if you can give people sufficient access to treatment," said James Hall, Ph.D., UI associate professor of pediatrics, social work, public health and nursing and one of the review authors. "We were worried that you need a special care ward or other special setting, but at least based on the data we reviewed, that doesn't seem to be the case."

The Time Factor

"What seems to make a difference is time. Meth effects can last up to six months for just one use, and the drug can do greater damage to a person's physical, behavioral and thinking functions than many other illicit drugs or alcohol," Hall wrote. "For this reason, it takes much longer to treat a person with a meth addiction than it does to treat someone with a cocaine or heroin problem. This time factor is also one reason why so many meth treatments currently fail."

Most adult residential drug treatment programs have been shortened in recent years from 45 or 30 days to only 10 to 14 because of changes in the insurance industry. "The problem is even worse for adolescents. Residential treatment programs for that age group have "dried up" due to budget cuts," Hall said.

Two Weeks Not Enough

"If you are a regular meth user, you will need more time to detox before you can accept the treatments, which are very cognitive," he said. "We don't know exactly how long you need, but we do know the current two-week time isn't sufficient. Likely, a minimum of 30 days of residential treatment allows the meth abuser to regain essential thinking and decision-making skills."

Hall said researchers should determine what residential treatment length would be effective for meth users before using outpatient care.

Treatment Instead of Imprisonment

"Most state and insurance programs will not pay for treatment beyond two weeks, so even if a medical need is confirmed, funding needs also must be addressed," Hall said.

"The emphasis on dealing with meth has been punishment and imprisonment, but we may do well as a **society** to reserve prison for those who are involved in illegal drug sales or violence and support treatment for abusers," Hall said.

SOURCE: Hall's review article appeared in the April 2003 issue of the *Journal of Substance Abuse Treatment*.

Brain Recovery Possible for Meth Users

From JAMA News Release

Abstinence Can Reverse Some Brain Damage

Adaptive changes in chemical activity in certain regions of the brain of former methamphetamine users who have not used the drug for a year or more suggest some recovery of neuronal structure and function, according to an article in the April 2005 issue of *Archives of General Psychiatry*, one of the JAMA Archives journals.

Methamphetamine use has been shown to cause abnormalities in brain regions associated with selective attention and regions associated with memory, according to background information in the article. Recent animal and human studies suggest that neuronal changes associated with long-term methamphetamine use may not be permanent but may partially recover with prolonged abstinence.

Thomas E. Nordahl, M.D., Ph.D., of the University of California, Davis, and colleagues compared eight methamphetamine users who had not used methamphetamine for one to five years and 16 recently abstinent methamphetamine users who had not used the drug for one to six months with 13 healthy, non-substance-using controls using a method of brain imaging, proton magnetic resonance spectroscopy (MRS), that allows the visualization of biochemical markers that are linked with damage and recovery to the neurons in the brain.

The researchers measured biomarkers in the anterior cingulum cortex, a region of the brain associated with selective attention.

Levels of N-acetylaspartate (NAA), which is present only in neurons, were measured as a marker of the amount of damage (neuronal loss).

Neuronal Recovery

Choline (Cho), which is generated by the creation of new membranes and, the authors write, "may be an ideal marker to track changes consistent with neuronal recovery associated with drug abstinence," was measured as a biomarker of recovery.

Levels of NAA were abnormally low in all the methamphetamine users, the authors found. Levels were lower relative to the length of methamphetamine use, but did not change relative to the amount of time that the methamphetamine users had been abstinent. The researchers found elevated Cho levels in the methamphetamine users who had not used the drug in one to six months, but normalized levels in the longer abstainers.

Normalization of Function

"In the early periods following methamphetamine exposure, the brain may undergo several processes leading to increased membrane turnover. The relative Cho normalization across periods of abstinence suggests that when drug exposure is terminated, adaptive changes occur, which may contribute to some degree of normalization of neuronal structure and function," they write.

"The understanding of how the human brain can recover or partially recover as a function of extended drug abstinence has important implications both for the neurobiology of addiction and substance abuse treatment," the authors conclude. "Additional longitudinal studies…are needed to further understand the underlying physiological changes of stimulant drugs on the human brain."

MSNBC.com

Meth's aphrodisiac effect adds to drug's allure

Illegal substance boosts sexual appetite, researchers say

The Associated Press

Updated: 4:31 p.m. CT Dec 3, 2004

CHATTANOOGA, Tenn. - At a recent task force meeting on the epidemic of methamphetamine use in Appalachia, Gov. Phil Bredesen winced when a federal prosecutor described the illegal drug as an aphrodisiac.

Doctors and government officials don't like to talk much about it, but there is an obvious reason people get hooked on methamphetamine: sex.

Meth eventually destroys the sex drive, but for a short while it can boost sexual appetite and performance more powerfully than drugs such as cocaine, doctors say.

"Who wouldn't want to use it? You lose weight and you have great sex," Assistant U.S. Attorney Paul Laymon said sarcastically at the meeting of the Tennessee task force.

For obvious reasons, government officials want to focus on the misery meth causes.

Linked to brain damage and violent behavior

Use of the addictive drug can cause brain damage, violent behavior and hallucinations, and exposure to the potentially explosive vapors during the manufacture of meth can cause respiratory problems, headaches and nausea. In many gay clubs in New York City and elsewhere, meth is often injected, putting users and their partners at risk for HIV, hepatitis C and other sexually transmitted diseases.

As for why the drug has such a hold on people, Dr. Mary Holley, an obstetrician who runs a Mothers Against Methamphetamine ministry in Albertville, Ala., and has interviewed men and women addicted to meth, said sex is the No. 1 reason people use it.

"The effect of an IV hit of methamphetamine is the equivalent of 10 orgasms all on top of each other lasting for 30 minutes to an hour, with a feeling of arousal that lasts for another day and a half," she said.

The effect doesn't last long.

"After you have been using it about six months or so you can't have sex unless you are high," Holley said. "After you have been using it a little bit longer you can't have sex even when you're high. Nothing happens. It doesn't work."

Dr. John Standridge, an addiction specialist with the Council for Alcohol and Drug Abuse Services in Chattanooga, said meth and other stimulants initially "rev up the dopamine nervous system in the brain. They rev it up and burn it out."

A National Institute on Drug Abuse survey on drug use and health in 2002 found that 12.4 million Americans at least 12 years old — or about 5 percent of the population — had tried meth at least once in their lifetimes. In a measure of how serious the problem is in Appalachia, a total of 1,083 clandestine methamphetamine labs were cleaned up in Tennessee in 2003 — more than in any other state.

A meth task force appointed by Bredesen is recommending tougher penalties and expanded treatment for addicts.

Meth's reputation as a sex drug is not unique.

"All substance abuse is frequently marketed as enhancing sex life or making you more attractive or a better social companion," said John Walters, the drug czar for President Bush. But he added that buying meth as an aphrodisiac is "buying under false pretenses."

"Hair falls out. Teeth fall out," Walters said. "That's not sexy."

URL: http://www.msnbc.msn.com/id/6646180/

Steroids

Common names: Oral = Anadrol, Oxandrin, Dianobol, Winstrol, and injected = Deca-Durabolin, Durabolin, Depo-Testerone, and Equipoise. The street name for Dehydroepian-Drosterone (DHEA) is Andro, which can be found in health food stores as a dietary supplement.

What is it?

Anabolic steroids are synthetic compounds that are related to the male sex hormone testosterone. They come in either tablet or liquid forms and are taken orally or injected. Bodybuilders, weightlifters, wrestlers, and other athletes use them because they can facilitate increased skeletal muscle growth. These athletes claim that steroids enhance their athletic performance as well. Research has found that steroid use can be highly addictive.

Short-term effects

Steroids may contribute to an increase in body weight and muscular strength. Side effects are a definite outcome of using steroids. These may include but are not limited to psychological reactions such as anger and aggressiveness. Physiological effects may include damage to the liver, heart attacks, acne, cysts, oily hair and skin, and a disruption of the normal production of hormones. In males these can cause a low sperm count, acne, a reduction of the testes, hair loss, male breasts, etc. In females, steroids can cause excessive body hair and loss of scalp hair, coarse skin, enlarged clitoris, a deepening of the voice, etc. In adolescents, steroids can affect bone growth by signaling the bones to stop growing sooner than they should. This effect is irreversible.

Long-term effects

The risk for heart attacks and strokes prior to the age of 30-years-old are significant. Some of the effects listed above are irreversible. Blood clots and liver tumors as well as blood-filled cysts in the liver can happen. Studies in mice have indicated the risk of premature death. Withdrawal symptoms can cause depression, mood swings, fatigue, restlessness, and loss of appetite, loss of sex drive, eating disorders, and other serious complications.

Signs of usage

Some people who actively use anabolic steroids have shown signs of irritability and aggression. These dark moods can lead to fights, armed robbery and other crimes.

Legal status

Several forms of steroids can be found in health food stores under the guise of a dietary supplement (i.e. DHEA or Andro – see above). Most others call for a prescription from a certified physician.

(Adapted from www.nida.nih.gov/researchreports/steroids)

APPENDIX B

Supplemental Resources

(Please refer to individual articles/resources for appropriate citation)

Effective Arguing

Stay on the topic

No "kitchen sinking." Do not bring everything but the kitchen sink into the argument.

If another topic comes up, save it and state that you can discuss it at another time.

Put boundaries around the subject matter so the argument doesn't become a free-for-all.

Avoid putdowns

No name calling or use of shut up.

Use "I feel" statements:

1. I Care – build on your relationship (I care about our family; I care about my/your future)
2. I See – state the facts, not opinion (I see you coming home drunk; I see you so upset….)
3. I Feel – state how the behavior makes you feel (I'm really worried what will happen; I feel angry that this happened)
4. LISTEN – this is the most important step, but can also be the most difficult
5. I Want – express what you want to happen next (I want our family to be peaceful; I want to know your safe)
6. I Will – express what you will or will not do to help the situation (I will call you if I'm going to be late; I will talk to you when I'm feeling angry)

Allow for retreat

State that you need a break/space.

Agree to come back to discussion if needed at a later point.

Use good listening skills

Listen intently and repeat what you understand the other person has said.

Verify correctness of interpretation of what was said.

Take turns – really.

Don't interrupt.

Keep your body in check

Be aware of your body (how loud are you talking/what is your body posture).

Take a few deep breaths.

Count to ten to prevent an explosion.

Choose your battles

You don't need to have an argument over every little thing you don't agree with about the other person's behavior.

Remember to look for the positive things too.

Agree to disagree.

Have a release when done

Engage in an activity to help your body release the stress.

Take a walk, play a video game, take a bath, listen to music, journal/write, do something physical.

TRI | science addiction

Adolescent Brain Development and Drug Abuse

New findings indicate that brain development still in progress during adolescence; immature brain structures may place teenagers at elevated risk of substance abuse and arrested brain development.

Ken C. Winters, Ph.D.
Professor, Department of Psychiatry, University of Minnesota

A Special Report Commissioned by the Treatment Research Institute
Philadelphia, PA
A. Thomas McLellan, Executive Director

New scientific discoveries have put a much different perspective on the understanding of adolescent behavior. Research now suggests that the human brain is still maturing during the adolescent years, with changes continuing into the early 20s. The immature brain of the teenage years may not only explain why adolescents are prone to make poor decisions, but it may also place teenagers at an elevated risk to the harmful effects of drugs.

Work In Progress

Advanced technologies in brain imaging have provided windows to the developing brain. Based on the pioneering work of Jay Giedd and colleagues at the National Institute of Mental Health, evidence is accumulating that the brain is not fully formed at puberty as earlier thought, but continues important maturation that is not complete until about age 24.

Three brain structures that undergo maturation during youth – nucleus accumbens, amygdala and prefrontal cortex – are noteworthy in terms of their implications for understanding adolescent behavior. While scientists caution about suggesting definitive linkages between

neurodevelopmental findings and behavior, the discovery that brain construction is still in progress during adolescence offers several suggestive hypotheses.

The nucleus accumbens, which directs motivated behavior, is responsible for how much effort the organism will expend in order to seek rewards. In teenagers, an immature nucleus accumbens is believed to result in preferences for activities that require low effort yet produce high excitement. Real-world observations bear this out: most teenagers tend to favor activities such as playing video-games, skate boarding and, unfortunately, substance use.

The amygdala is the structure responsible for integrating emotional reactions to pleasurable and aversive experiences. It is believed that a developing amygdala contributes to two behavioral effects: the tendency for adolescents to react explosively to situations rather than with more controlled responses, and the propensity for youth to mis-read neutral or inquisitive facial expressions of others as a sign of anger.

And one of the last areas to mature is the prefrontal cortex, located just behind the forehead. Sometimes referred to as "the seat of sober second thought," it is the area of the brain responsible for the complex processing of information, ranging from making judgments, to controlling impulses, foreseeing consequences, and setting goals and plans. An immature prefrontal cortex is thought to be the neurobiological explanation for why teenagers show poor judgment and too often act before they think.

The Developing Brain and Drug Use

Scientists are now beginning to explore whether these new discoveries may help explain adolescent drug use and related impulsive behaviors. This is an important issue given that adolescence is a time of experimentation and novelty seeking.

ADHD

ADHD stands for **attention deficit hyperactivity disorder**. ADHD used to be known as **attention deficit disorder**, or ADD. In 1994, it was renamed ADHD. The term ADD is sometimes still used, though, to describe a type of ADHD that doesn't involve hyperactivity.

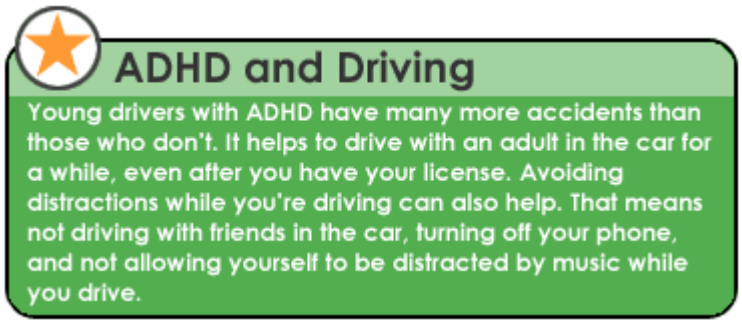
ADHD is a medical condition that affects how well someone can sit still, focus, and pay attention. People with ADHD have differences in the parts of their brains that control attention and activity. This means that they may have trouble focusing on certain tasks and subjects, or they may seem "wired," act impulsively, and get into trouble.

Symptoms and Signs of ADHD

Although ADHD begins in childhood, sometimes it's not diagnosed until a person is a teen — and occasionally not even until someone reaches adulthood.

Because ADHD is a broad category covering different things — attention, activity, and impulsivity — it can show up in different ways in different people. Some of the signs of ADHD are when someone:

- has difficulty paying attention or staying focused on a task or activity
- has problems finishing assignments at school or home and jumps from one activity to another
- has trouble focusing on instructions and difficulty following through
- loses or forgets things such as homework
- is easily distracted, even when doing something fun
- has problems paying close attention to details or makes careless mistakes
- has trouble organizing tasks and activities
- has difficulty waiting one's turn
- interrupts or intrudes on other people
- blurts out answers before questions have been completed
- fidgets with hands or feet or squirms about when seated
- feels restless
- talks excessively and has trouble engaging in activities quietly



Of course, it's normal for everyone to zone out in a boring class, jump into a conversation, or leave their homework on the kitchen table once in a while. But people with ADHD have so much trouble staying focused and controlling their behavior that it affects their emotions and how well they do in school or other areas of their lives. In fact, ADHD is often viewed as a learning disorder because it can interfere so much with a person's ability to study and learn.

Sometimes the symptoms of ADHD become less severe as a person grows older. For example, experts believe that the hyperactivity part of the disorder can diminish with age, although the problems with organization and attention often remain. Although some people may "grow out of" their symptoms, more than half of all kids who have ADHD will continue to show signs of the condition as young adults.

What Causes ADHD?

Doctors and researchers still aren't exactly sure why some people have ADHD. Research shows that ADHD is probably genetic and that it may be inherited in some cases. Scientists are also exploring other things that may be associated with ADHD: For example, ADHD may be more prevalent in kids who are born prematurely. It is also more common in guys than it is in girls.

Doctors do know that ADHD is caused by changes in brain chemicals called **neurotransmitters** (pronounced: nur-oh-**trans**-mih-terz). These chemicals help send messages between nerve cells in the brain. The neurotransmitter dopamine (pronounced: **doe**-puh-meen), for example, stimulates the brain's attention centers. So a person with low amounts of this chemical may show symptoms of ADHD.

How Is ADHD Treated?

Because there's no cure for ADHD, doctors treat people by helping them to manage the symptoms most effectively. Because some people have more trouble with the attention side of the disorder and others have more problems with the activity side, doctors tailor their treatment to the person's symptoms. So different people with ADHD may have different treatments.

Doctors usually follow a **multimodal** (pronounced: mul-tee-**moe**-dul) **approach** to ADHD treatment. This means that they use several different treatment methods for one patient, such as medication, family and individual counseling, and changes at school to address particular learning styles.

Certain medicines can help people with ADHD by improving their focus and attention and reducing the impulsiveness and hyperactivity associated with ADHD. People with ADHD used to have to take medicine several times a day, but now there are some that can be taken at home once a day in the morning. Scientists are constantly working to develop new medications to treat ADHD.

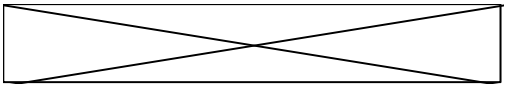
You can discuss treatment options with your doctor, but always follow the doctor's instructions about medication dosages. If you have been taking medicine for ADHD since you were a kid, your doctor will probably adjust your medication for changes in your symptoms as you get older.

Family counseling helps treat ADHD because it keeps parents informed and also shows them ways they can work with their kids to help. It also helps to improve communication within the family and to solve problems that come up between teens and their parents at home. Individual counseling helps teens with ADHD to better understand their behavior and to learn coping skills. Sometimes lots of teens with ADHD work together in group therapy, which helps them work on coping skills and getting along better with others, if that's been a problem.

Schools are also involved in helping students with ADHD — most will develop a plan that's right for each teen and make changes that allow learning in ways that work best for them.

People with ADHD may also have other problems, such as depression, anxiety, or learning disabilities like dyslexia, that require treatment. They also may be at greater risk for smoking and using drugs, especially if the ADHD is not appropriately treated. That's why proper diagnosis and treatment are critical.

If You or Someone You Know Has ADHD



Most teens with ADHD are diagnosed as kids, but some people aren't diagnosed until they're in their teens or even older. It's normal to feel overwhelmed, scared, or even angry if you've been diagnosed with ADHD. That's one thing counseling can help with. Talking about those feelings and dealing with them often makes the process much easier.

If you have ADHD, you may not be aware that you're behaving in a way that's different from others; you're just doing what comes naturally. This can sometimes cause problems with people who don't understand or know about your condition. For example, you might speak your mind to someone only to get the feeling that you've shocked or offended that person. You may not understand why people get mad at you.

Learning all you can about your condition can be a huge help. The more you understand, the more involved you can be in your own treatment. Here are some of the things you might try to help with school and relationships:

- Sit in the front of class to limit distractions.
- Turn off email, instant messaging, and your phone when doing homework or other tasks that require focused attention. This will help protect you against being distracted.

- Talk openly with your teacher about your condition and work together to be sure you're learning in a way that works for you. For example, some schools will allow people with ADHD more time for taking tests. Some teens may benefit from smaller class sizes and tutorial help.
- Use tools that help you stay organized. Keep a homework notebook to keep track of assignments, including a list of books and readings you'll need to bring home to do them. Write down classes, extracurricular activities, and other appointments in a daily planner so you don't forget. Keeping a daily agenda can also help you avoid making unplanned, impulsive decisions: If you're scheduled to start homework at 4:30, you'll know it's not a good idea to go with your friend to watch her 4:00 soccer practice. The organization skills you develop now will serve you well in the future, too. Even people who don't have ADHD all find they need to develop these skills when they head off to the workplace — so you'll be ahead of the curve!
- Get plenty of exercise. Studies are starting to show that exercise can help people who have ADHD. If you feel hyper during school, talk to a teacher about taking activity breaks so you can stay focused and concentrate better when in class. Take frequent activity breaks while studying or doing homework.
- Practice relaxation and meditation techniques to relax and focus. Try this breathing exercise for starters.
- Let friends know what's going on. Sometimes with our friends, we blurt things out and regret it later or we do silly, impulsive things. If this happens to you, let your friends know that sometimes you just say things without thinking all the way through, apologize if you have hurt someone's feelings, and try to be extra careful in new situations.
- Take pride in the things you do well. Having ADHD is just a different way of being, and people with ADHD have their own abilities and talents.

If you have ADHD, it's natural to feel misunderstood and frustrated at times. It might seem like you're always losing your homework or having trouble following teachers' instructions, or you may have trouble making friends or getting along with your family members. It helps to learn as much as you can about ADHD and to find the methods that will help you work to your full potential — both academically and socially.

The good news is that doctors, counselors, and teachers are learning more about ADHD all the time and have a greater understanding than ever of the challenges people living with it face.

Reviewed by: Mary L. Gavin, MD
Date reviewed: February 2006
Originally reviewed by: W. Douglas Tynan, PhD, and Richard S. Kingsley, MD

Nemours FOUNDATION

Do you ever find yourself getting really irritable for almost no reason? Or suddenly feeling down without knowing why? Going from sadness to anger to joy in a matter of minutes can make many teens feel as though they're losing their grip. But why is the feeling of being on an emotional roller coaster so common among teens?

Dealing with constant change and pressure is part of the answer. Maybe you're starting a new school and not able to see old friends as much. Getting good grades or wanting to be better in sports or other activities can be a concern for many teens. It might feel as though there just isn't enough time to do everything.

Being a teen means struggling with identity and self-image. Being accepted by friends feels extremely important. Teens also may notice, for the first time, a sense of distance from parents and family. You may feel you want to be on your own and make your own decisions, but it can also seem overwhelming and even a bit lonely at times. As fun and exciting as this time is, it also can be a time of confusion and conflict. It can take a while for teens — and their families — to feel comfortable with the transition between childhood and adulthood.

Another important cause for mood swings is biology. When puberty begins, the body starts producing sex hormones. These hormones — estrogen and progesterone in girls and testosterone in guys — cause physical changes in the body. But in some people, they also seem to cause emotional changes — the ups and downs that sometimes feel out of control.

Understanding that almost everyone goes through mood swings during their teen years might make them easier to handle.

When It's More Than Just a Mood

Feeling irritable or short-tempered can be signs of depression. So can feelings of boredom or hopelessness.

Many people think of depression as feeling sad, but depression can also bring feelings of moodiness, impatience, anger, or even just not caring. When depression gets in the way of enjoying life or dealing with others, that's a sign you need to do something about it, like talking to a counselor or therapist who can help you deal with it.

Taking Control

Here are some things you can do that might make those bad moods a bit easier to handle:

- **Recognize you're not alone.** Although not every teen experiences mood changes to the same degree, they are common.

- **Catch your breath**. Or count to 10. Or do something that lets you settle down for a few moments, especially if you're feeling angry or irritable. Try to look at the situation from the point of view of a wise observer.

- **Talk to people you trust**. Friends can help each other by realizing that they're not alone in their feelings. Talking to parents is important, too. Parents can share their own experiences dealing with bad moods. Plus, they'll appreciate it if you try to explain how you feel instead of just slamming a door. Teachers and counselors are often good resources, and a doctor can help sort through questions about development. Keeping feelings inside can make them seem much worse.

- **Exercise.** Regular exercise produces more beta-endorphin, a hormone that controls stress and improves mood. Go for a run, play some tennis, ride your bike, or punch a punching bag.

- **Get enough sleep**. Though it can be hard to find enough time, getting adequate rest is very important. Being tired can lead to more sadness and irritability.

- **Create.** Get involved in some sort of project, like starting a journal or diary, building something out of wood, or starting an art or music piece. Writing can help you organize and express your thoughts and feelings and will make things more manageable. Don't worry about grammar,

spelling, or punctuation; the important thing is just to get your thoughts on paper. Do the same thing with paint, sculpture, music, or other art forms. Put your feelings into your artwork.

- **Cry.** There's nothing wrong with crying; in fact, it often makes a person feel better. However, if you find that you are sad, irritable, bored, or hopeless much of the time, or if you just can't seem to shake the blues, you might be depressed and need help from a counselor or doctor. If you're feeling stressed or angry a lot of the time, getting help could be very useful for you.

- **Wait.** Just as you can get into a bad mood for what seems like no reason at times, that mood can also pass. If your negative mood sticks around too long, though — or if it's interfering with the way you deal with friends, parents, school, or activities — then you may want to talk to a school counselor, parent, or therapist about what you can do to feel better.

Reviewed by: Neil Izenberg, MD
Date reviewed: September 2004
Originally reviewed by: Jonathan A. Schneider, DO

I'm fat. I'm too skinny. I'd be happy if I were taller, shorter, had curly hair, straight hair, a smaller nose, bigger muscles, longer legs.

Do any of these statements sound familiar? Are you used to putting yourself down? If so, you're not alone. As a teen, you're going through a ton of changes in your body. And as your body changes, so does your image of yourself. Lots of people have trouble adjusting, and this can affect their self-esteem.

Why Are Self-Esteem and Body Image Important?

Self-esteem is all about how much people value themselves, the pride they feel in themselves, and how worthwhile they feel. Self-esteem is important because feeling good about yourself can affect how you act. A person who has high self-esteem will make friends easily, is more in control of his or her behavior, and will enjoy life more.

Body image is how a person feels about his or her own physical appearance.

For many people, especially people in their early teens, body image can be closely linked to self-esteem. That’s because as kids develop into teens, they care more about how others see them.

What Influences a Person’s Self-Esteem?

Puberty

Some teens struggle with their self-esteem when they begin puberty because the body goes through many changes. These changes, combined with a natural desire to feel accepted, mean it can be tempting for people to compare themselves to others. They may compare themselves to the people around them or to actors and celebs they see on TV, in movies, or in magazines.

But it’s impossible to compare ourselves to others because the changes that come with puberty are different for everyone. Some people start developing early; others are late bloomers. Some get a temporary layer of

fat to prepare for a growth spurt, others fill out permanently, and others feel like they stay skinny no matter how much they eat. It all depends on how our genes have programmed our bodies to act.

The changes that come with puberty can affect how both girls and guys feel about themselves. Some girls may feel uncomfortable or embarrassed about their maturing bodies. Others may wish that they were developing faster. Girls may feel pressure to be thin but guys may feel like they don't look big or muscular enough.

Outside Influences

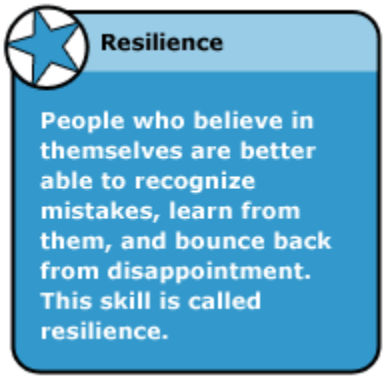
It's not just development that affect self-esteem, though. Lots of other factors (like media images of skinny girls and bulked-up guys) can affect a person's body image too.

Family life can sometimes influence a person's self-esteem. Some parents spend more time criticizing their children and the way they look than praising them. This criticism may reduce a person's ability to develop good self-esteem.

People may also experience negative comments and hurtful teasing about the way they look from classmates and peers. Sometimes racial and ethnic prejudice is the source of such comments. Although these comments often come from ignorance on the part of the person who makes them, sometimes they can affect a person's body image and self-esteem.

Healthy Self-Esteem

If you have a positive body image, you probably like and accept yourself the way you are. This healthy attitude allows you to explore other aspects of growing up, such as developing good friendships, growing more independent from your parents, and challenging yourself physically and mentally. Developing these parts of yourself can help boost your self-esteem.



A positive, optimistic attitude can help people develop strong self-esteem. For example, saying, "Hey, I'm human," instead of "Wow, I'm such a loser," when you've made a mistake. Or not blaming others when things don't go as expected.

Knowing what makes you happy and how to meet your goals can help you feel capable, strong, and in control of your life. A positive attitude and a healthy lifestyle (such as exercising and eating right) are a great combination for building good self-esteem.

Tips for Improving Your Body Image

Some people think they need to change how they look or act to feel good about themselves. But actually all you need to do is change the way you see your body and how you think about yourself.

The first thing to do is recognize that your body is your own, no matter what shape, size, or color it comes in. If you are very worried about your weight or size, check with your doctor to verify that things are OK. But it is no one's business but your own what your body is like — ultimately, you have to be happy with yourself.

Next, identify which aspects of your appearance you can realistically change and which you can't. Everyone (even the most perfect-seeming celeb) has things about themselves that they can't change and need to accept — like their height, for example, or their shoe size.

If there are things about yourself that you want to change and can (such as how fit you are), do this by making goals for yourself. For example, if you want to get fit, make a plan to exercise every day and eat nutritious foods. Then keep track of your progress until you reach your goal. Meeting a challenge you set for yourself is a great way to boost self-esteem!

When you hear negative comments coming from within yourself, tell yourself to stop. Try building your self-esteem by giving yourself three compliments every day. While you're at it, every evening list three things in your day that really gave you pleasure. It can be anything from the way the sun felt on your face,

the sound of your favorite band, or the way someone laughed at your jokes. By focusing on the good things you do and the positive aspects of your life, you can change how you feel about yourself.

Where Can I Go if I Need Help?

Sometimes low self-esteem and body image problems are too much to handle alone. A few teens may become depressed, lose interest in activities or friends — and even hurt themselves or resort to alcohol or drug abuse. If you're feeling this way, it can help to talk to a parent, coach, religious leader, guidance counselor, therapist, or an adult friend. A trusted adult — someone who supports you and doesn't bring you down — can help you put your body image in perspective and give you positive feedback about your body, your skills, and your abilities.

If you can't turn to anyone you know, call a teen crisis hotline (check the yellow pages under social services). The most important thing is to get help if you feel like your body image and self-esteem are affecting your life.

Reviewed by: Barbara P. Homeier, MD
Date reviewed: April 2006
Originally reviewed by: Jonathan A. Schneider, DO

ANXIETY DISORDERS

What are anxiety disorders?

Anxiety disorders range from feelings of uneasiness to immobilizing bouts of terror. This fact sheet briefly describes the different types of anxiety disorders. This fact sheet is not exhaustive, nor does it include the full range of symptoms and treatments. Keep in mind that new research can yield rapid and dramatic changes in our understanding of and approaches to mental disorders. If you believe you or a loved one has an anxiety disorder, seek competent, professional advice or another form of support.

Generalized Anxiety Disorder: Most people experience anxiety at some point in their lives and some nervousness in anticipation of a real situation. However if a person cannot shake unwarranted worries, or if the feelings are jarring to the point of avoiding everyday activities, he or she most likely has an anxiety disorder.

Symptoms: Chronic, exaggerated worry, tension, and irritability that appear to have no cause or are more intense than the situation warrants. Physical signs, such as restlessness, trouble falling or staying asleep, headaches, trembling, twitching, muscle tension, or sweating, often accompany these psychological symptoms.

Formal diagnosis: When someone spends at least six months worried excessively about everyday problems. However, incapacitating or troublesome symptoms warranting treatment may exist for shorter periods of time.

Treatment: Anxiety is among the most common, most treatable mental disorders. Effective treatments include cognitive behavioral therapy, relaxation techniques, and biofeedback to control muscle tension. Medication, most commonly anti-anxiety drugs, such as benzodiazepine and its derivatives, also may be required in some cases. Some commonly prescribed anti-anxiety medications are diazepam, alprazolam, and lorazepam. The non-benzodiazepine anti-anxiety medication buspirone can be helpful for some individuals.

Panic Disorder: People with panic disorder experience white-knuckled, heart-pounding terror that strikes suddenly and without warning. Since they cannot predict when a panic attack will seize them, many people live in persistent worry that another one could overcome them at any moment.

Symptoms: Pounding heart, chest pains, lightheadedness or dizziness, nausea, shortness of breath, shaking or trembling, choking, fear of dying, sweating, feelings of unreality, numbness or tingling, hot flashes or chills, and a feeling of going out of control or going crazy.

Formal Diagnosis: Either four attacks within four weeks or one or more attacks followed by at least a month of persistent fear of having another attack. A minimum of four of the symptoms listed above developed during at least one of the attacks. Most panic attacks last only a few minutes, but they

occasionally go on for ten minutes, and, in rare cases, have been known to last for as long as an hour. They can occur at any time, even during sleep.

Treatment: Cognitive behavioral therapy and medications such as high-potency anti-anxiety drugs like alprazolam. Several classes of antidepressants (such as paroxetine, one of the newer selective serotonin reuptake inhibitors) and the older tricyclics and monoamine oxidase inhibitors (MAO inhibitors) are considered "gold standards" for treating panic disorder. Sometimes a combination of therapy and medication is the most effective approach to helping people manage their symptoms. Proper treatment helps 70 to 90 percent of people with panic disorder, usually within six to eight weeks.

Phobias: Most of us steer clear of certain, hazardous things. Phobias however, are irrational fears that lead people to altogether avoid specific things or situations that trigger intense anxiety. Phobias occur in several forms, for example, agoraphobia is the fear of being in any situation that might trigger a panic attack and from which escape might be difficult. Social phobia is a fear of being extremely embarrassed in front of other people. The most common social phobia is fear of public speaking.

Symptoms: Many of the physical symptoms that accompany panic attacks - such as sweating, racing heart, and trembling - also occur with phobias.

Formal Diagnosis: The person experiences extreme anxiety with exposure to the object or situation; recognizes that his or her fear is excessive or unreasonable; and finds that normal routines, social activities, or relationships are significantly impaired as a result of these fears.

Treatment: Cognitive behavioral therapy has the best track record for helping people overcome most phobic disorders. The goals of this therapy are to desensitize a person to feared situations or to teach a person how to recognize, relax, and cope with anxious thoughts and feelings. Medications, such as anti-anxiety agents or antidepressants, can also help relieve symptoms. Sometimes therapy and medication are combined to treat phobias.

Post-traumatic Stress Disorder: Researchers now know that anyone, even children, can develop PTSD if they have experienced, witnessed, or participated in a traumatic occurrence-especially if the event was life threatening. PTSD can result from terrifying experiences such as rape, kidnapping, natural disasters, or war or serious accidents such as airplane crashes. The psychological damage such incidents cause can interfere with a person's ability to hold a job or to develop intimate relationships with others.

Symptoms: The symptoms of PTSD can range from constantly reliving the event to a general emotional numbing. Persistent anxiety, exaggerated startle reactions, difficulty concentrating, nightmares, and insomnia are common. People with PTSD typically avoid situations that remind them of the traumatic event, because they provoke intense distress or even panic attacks.

Formal Diagnosis: Although the symptoms of PTSD may be an appropriate initial response to a traumatic event, they are considered part of a disorder when they persist beyond three months.

Treatment: Psychotherapy can help people who have PTSD regain a sense of control over their lives.

They also may need cognitive behavior therapy to change painful and intrusive patterns of behavior and thought and to learn relaxation techniques. Support from family and friends can help speed recovery and healing. Medications, such as antidepressants and anti-anxiety agents to reduce anxiety, can ease the symptoms of depression and sleep problems. Treatment for PTSD often includes both psychotherapy and medication.

For more information, as well as referrals to specialists and self-help groups in your State, contact:

Anxiety Disorders Association of America
8730 Georgia Avenue - Suite 600
Silver Spring, MD 20910
Telephone: 240-485-1001
Fax: 240-485-1035
www.adaa.org

Mental Help Net
CenterSite, LLC
570 Metro Place
Dublin, OH 43017
http://mentalhelp.net/poc/center_index.php?id=1

National Mental Health Association
2001 Beauregard Street, 12th Floor
Alexandria, VA 22311
Telephone: 800-969-6642
Fax: 703-684-5968
(TDD): 800-433-5959
www.nmha.org/infoctr/factsheets/index.cfm

The National Institute of Mental Health's toll-free information line is 1-888-ANXIETY; their web address is www.nimh.nih.gov/anxiety/anxietymenu.cfm.

Note: These are suggested resources. This is not meant to be a complete list.

Dealing With the Effects of Trauma A Self-Help Guide

Introduction

This is a serious issue. This booklet is just an introduction—a starting point that may give you the courage to take action. It is not meant to be a treatment program. The ideas and strategies are not intended to replace treatment you are currently receiving.

You may have had one or many very upsetting, frightening, or traumatic things happen to you in your life, or that threatened or hurt something you love—even your community. When these kinds of things happen, you may not "get over" them quickly. In fact, you may feel the effects of these traumas for many years, even for the rest of your life. Sometimes you don't even notice effects right after the trauma happens. Years later you may begin having thoughts, nightmares, and other disturbing symptoms. You may develop these symptoms and not even remember the traumatic thing or things that once happened to you.

For many years, the traumatic things that happened to people were overlooked as a possible cause of frightening, distressing, and sometimes disabling emotional symptoms such as depression, anxiety, phobias, delusions, flashbacks, and being out of touch with reality. In recent years, many researchers and health care providers have become convinced of the connection between trauma and these symptoms. They are developing new treatment programs and revising old ones to better meet the needs of people who have had traumatic experiences.

This booklet can help you to know if traumatic experiences in your life may be causing some or all of the difficult symptoms you are experiencing. It may give you some guidance in working to relieve these symptoms and share with you some simple and safe things you can do to help yourself heal from the effects of trauma.

Some examples of traumatic experiences that may be causing your symptoms include —

- physical, emotional, or sexual abuse
- neglect
- war experiences
- outbursts of temper and rage
- alcoholism (your own or in your family)
- physical illnesses, surgeries, and disabilities
- sickness in your family
- loss of close family members and friends
- natural disasters
- accidents

Some things that may be very traumatic to one person hardly seem to bother another person. If something bothers you a lot and it doesn't bother someone else, it doesn't mean there is something wrong with you. People respond to experiences differently.

Do you feel that traumatic things that happened to you may be causing some or all of your distressing and disabling emotional symptoms? Examples of symptoms that may be caused by trauma include —

- anxiety
- insomnia
- agitation
- irritability or rage
- flashbacks or intrusive memories
- feeling disconnected from the world
- unrest in certain situations
- being "shut down"
- being very passive
- feeling depressed
- eating problems
- needing to do certain things over and over
- unusual fears
- impatience
- always having to have things a certain way
- doing strange or risky things
- having a hard time concentrating
- wanting to hurt yourself
- being unable to trust anyone
- feeling unlikable
- feeling unsafe
- using harmful substances
- keeping to yourself
- overworking

Perhaps you have been told that you have a psychiatric or mental illness like depression, bipolar disorder or manic depression, schizophrenia, borderline personality disorder, obsessive—compulsive disorder, dissociative disorder, an eating disorder, or an anxiety disorder. The ways you can help yourself handle these symptoms and the things your health care providers suggest as treatment may be helpful whether your symptoms are caused by trauma or by a psychiatric illness.

Help From Health Care Providers, Counselors and Groups

You may decide to reach out to health care providers for assistance in relieving the effects of trauma. This is a good idea. The effects of trauma, even trauma that happened many years ago, can affect your health. You may have an illness that needs treatment. In addition, your health care provider may suggest that you take medications or certain food supplements to relieve your symptoms. Many people find that getting this kind of health care support gives them the relief and energy they need to work on other aspects of healing. To find health care providers in your community who have expertise in addressing issues related to trauma, contact your local mental health agency, hospital, or crisis service.

If you possibly can, work with a counselor or in a special program designed for people who have been traumatized. A counselor or people leading the program may refer you to a group. These groups can be very helpful. However, keep in mind that you need to decide for yourself what you are going to do, and how and when you are going to do it. **You must be in charge of your recovery in every way.**

Wherever you go for help, the program or treatment should include the following:

Empowerment–You must be in charge of your healing in every way to counteract the effects of the trauma where all control was taken away from you.

Validation–You need others to listen to you, to validate the importance of what happened to you, to bear witness, and to understand the role of this trauma in your life.

Connection–Trauma makes you feel very alone. As part of your healing, you need to reconnect with others. This connection may be part of your treatment.

If you feel the cause of your symptoms is related to trauma in your life, you will want to be careful about your treatment and in making decisions about other areas of your life. The following guidelines will help you decide how to help yourself feel better.

Have hope. It is important that you know that you can and will feel better. In the past you may have thought you would never feel better—that the horrible symptoms you experience would go on for the rest of your life. Many people who have experienced the same symptoms that you are experiencing are now feeling much better.

They have gone on to make their lives the way they want them to be and to do the things they want to do.

Take personal responsibility. When you have been traumatized, you lose control of your life. You may feel as though you still don't have any control over your life. You begin to take back that control by being in charge of every aspect of your life. Others, including your spouse, family members, friends, and health care professionals will try to tell you what to do. Before you do what they suggest, think about it carefully. Do you feel that it is the best thing for you to do right now?

If not, do not do it. You can follow others advice, but be aware that you are choosing to do so. It is important that you make decisions about your own life. You are responsible for your own behavior. Being traumatized is not an acceptable excuse for behavior that hurts you or hurts others.

Talk to one or more people about what happened to you. Telling others about the trauma is an important part of healing the effects of trauma. Make sure the person or people you decide to tell are safe people, people who would not hurt you, and who understand that what happened to you is serious. They should know, or you could tell them, that describing what happened to you over and over is an important part of the healing process. Don't tell a person who responds with statements that invalidate your experience, like "That wasn't so bad." "You should just forget about it," "Forgive and forget," or "You think that's bad, let me tell you what happened to me." They don't understand. In connecting with others, avoid spending all your time talking about your traumatic experiences. Spend time listening to others and sharing positive life experiences, like going to movies or watching a ball game together. You will know when you have described your trauma enough, because you won't feel like doing it anymore.

Develop a close relationship with another person. You may not feel close to or trust anyone. This may be a result of your traumatic experiences. Part of healing means trusting people again. Think about the person in your life that you like best. Invite them to do something fun with you. If that feels good, make a plan to do something else together at another time—maybe the following week. Keep doing this until you feel close to this person. Then, without giving up on that person, start developing a close relationship with another person. Keep doing this until you have close relationships with at least five people. Support groups and peer support centers are good places to meet people.

Things You Can Do Every Day to Help Yourself Feel Better

There are many things that happen every day that can cause you to feel ill, uncomfortable, upset, anxious, or irritated. You will want to do things to help yourself feel better as quickly as possible, without doing anything that has negative consequences, for example, drinking, committing crimes, hurting yourself, risking your life, or eating lots of junk food.

- **Read through the following list.** Check off the ideas that appeal to you and give each of them a try when you need to help yourself feel better. Make a list of the ones you find to be most useful, along with those you have successfully used in the past, and hang the list in a prominent place—like on your refrigerator door-as a reminder at times when you need to comfort yourself. Use these techniques whenever you are having a hard time or as a special treat to yourself.

- **Do something fun or creative,** something you really enjoy, like crafts, needlework, painting, drawing, woodworking, making a sculpture, reading fiction, comics, mystery novels, or inspirational writings, doing crossword or jigsaw puzzles, playing a game, taking some photographs, going fishing, going to a movie or other community event, or gardening.

- **Get some exercise.** Exercise is a great way to help yourself feel better while improving your overall stamina and health. The right exercise can even be fun.

- **Write something.** Writing can help you feel better. You can keep lists, record dreams, respond to questions, and explore your feelings. All ways are correct. Don't worry about how well you write. It's not important. It is only for you. Writing about the trauma or traumatic events also helps a lot. It allows you to safely process the emotions you are experiencing. It tells your mind that you are taking care of the situation and helps to relieve the difficult symptoms you may be experiencing. Keep your writings in a safe place where others cannot read them. Share them only with people you feel comfortable with. You may even want to write a letter to the person or people who have treated you badly, telling them how it affected you, and not send the letter.

- **Use your spiritual resources.** Spiritual resources and making use of these resources varies from person to person. For some people it means praying, going to church, or reaching out to a member of the clergy. For others it is meditating or reading affirmations and other kinds of inspirational materials. It may include rituals and ceremonies—whatever feels right to you. Spiritual work does not necessarily occur within the bounds of an organized religion. Remember, you can be spiritual without being religious.

- **Do something routine.** When you don't feel well, it helps to do something "normal"—the kind of thing you do every day or often, things that are part of your routine like taking a shower, washing your hair, making yourself a sandwich, calling a friend or family member, making your bed, walking the dog, or getting gas in the car.

- **Wear something that makes you feel good.** Everybody has certain clothes or jewelry that they enjoy wearing. These are the things to wear when you need to comfort yourself.

- **Get some little things done.** It always helps you feel better if you accomplish something, even if it is a very small thing. Think of some easy things to do that don't take much time. Then do them. Here are some ideas: clean out one drawer, put five pictures in a photo album, dust a book case, read a page in a favorite book, do a load of laundry, cook yourself something healthful, send someone a card.

- **Learn something new.** Think about a topic that you are interested in but have never explored. Find some information on it in the library. Check it out on the Internet. Go to a class. Look at something in a new way. Read a favorite saying, poem, or piece of scripture, and see if you can find new meaning in it.

- **Do a reality check.** Checking in on what is really going on rather than responding to your initial "gut reaction" can be very helpful. For instance, if you come in the house and loud music is playing, it may trigger the thinking that someone is playing the music just to annoy you. The initial reaction is to get really angry with them. That would make both of you feel awful. A reality check gives the person playing the loud music a chance to look at what is really going on. Perhaps the person playing the music thought you wouldn't be in until later and took advantage of the opportunity to play loud music. If you would call upstairs and ask him to turn down the music so you could rest, he probably would say, “Sure!" It helps if you can stop yourself from jumping to conclusions before you check the facts.

- **Be present in the moment.** This is often referred to as mindfulness. Many of us spend so much time focusing on the future or thinking about the past that we miss out on fully experiencing what is going on in the present. Making a conscious effort to focus your attention on what you are doing right now and what is happening around you can help you feel better. Look around at nature. Feel the weather. Look at the sky when it is filled with stars.

- **Stare at something pretty or something that has special meaning for you.** Stop what you are doing and take a long, close look at a flower, a leaf, a plant, the sky, a work of art, a souvenir from an adventure, a picture of a loved one, or a picture of yourself. Notice how much better you feel after doing this.

- **Play with children in your family or with a pet.** Romping in the grass with a dog, petting a kitten, reading a story to a child, rocking a baby, and similar activities have a calming effect which translates into feeling better.

- **Do a relaxation exercise.** There are many good books available that describe relaxation exercises. Try them to discover which ones you prefer. Practice them daily. Use them whenever you need to help yourself feel better. Relaxation tapes which feature relaxing music or nature sounds are available. Just listening for 10 minutes can help you feel better.

- **Take a warm bath.** This may sound simplistic, but it helps. If you are lucky enough to have access to a Jacuzzi or hot tub, it's even better. Warm water is relaxing and healing.

- **Expose yourself to something that smells good to you.** Many people have discovered fragrances that help them feel good. Sometimes a bouquet of fragrant flowers or the smell of fresh baked bread will help you feel better.

- **Listen to music.** Pay attention to your sense of hearing by pampering yourself with delightful music you really enjoy. Libraries often have records and tapes available for loan. If you enjoy music, make it an essential part of every day.

- **Make music.** Making music is also a good way to help yourself feel better. Drums and other kinds of musical instruments are popular ways of relieving tension and increasing well-being. Perhaps you have an instrument that you enjoy playing, like a harmonica, kazoo, penny whistle, or guitar.

- **Sing. Singing helps.** It fills your lungs with fresh air and makes you feel better. Sing to yourself. Sing at the top of your lungs. Sing when you are driving your car. Sing when you are in the shower. Sing for the fun of it. Sing along with favorite records, tapes, compact discs, or the radio. Sing the favorite songs you remember from your childhood.

Perhaps you can think of some other things you could do that would help you feel better.

The Healing Journey

Begin your healing journey by thinking about how it is you would like to feel. Write it down or tell someone else. In order to promote your own healing, you may want to work on one or several of the following issues that you know would help you to feel better.

- **Learn to know and appreciate your body.** Your body is a miracle. Focus on different parts of your body and how they feel. Think about what that part of your body does for you. Go to your library and review books that teach you about your body and how it works.
- **Set boundaries and limits that feel right to you.** In all relationships you have the right to define your own limits and boundaries so that you feel comfortable and safe. Say "no" to anything you don't want. For instance, if someone calls you five times a day, you have the right to ask them to

call you less often, or even not to call you at all. If someone comes to your home when you don't want them to be there, you have the right to ask them to leave. Think about what your boundaries are. They may differ from person to person. You may enjoy it a lot when your sister comes to visit, but you may not want a visit from your brother or a cousin. You may not want anyone to call you on the phone after 10 p.m. Expect and insist that others respect your boundaries.

- **Learn to be a good advocate for yourself.** Ask for what you want and deserve. Work toward getting what you want and need for yourself. If you want to get more education for yourself so you can do work that you enjoy, find out about available programs, and do what it is you need to do to meet your goal. If you want your physician to help you find the cause of physical problems, insist that he or she do so, or refer you to someone else. When you are making important decisions about your life, like getting or staying married, going back to school, or parenting a child, be sure the decision you make is really in your best interest.
- **Build your self-esteem.** You are a very special and wonderful person. You deserve all the best things that life has to offer. Remind yourself of this over and over again. Go to the library and review books on building your self-esteem. Do some of the suggested activities.
- **Develop a list of activities** that help you feel better (refer to the list in the section "Things you can do to help yourself feel better"). Do some of these activities every day. Spend more time doing these activities when you are feeling badly.
- Every family develops certain patterns or ways of thinking about and doing things. Those things you learn in your family as a child will often influence you as an adult—sometimes making your life more difficult and getting in the way of meeting your personal goals. Think about the ways of thinking and doing things that guide you in your life. Ask yourself if they are patterns, and if you need to change them to make your life the way you want it to be. For example, in your family you may have been taught that you never tell anyone certain family secrets. In fact, it may be very important to share some family secrets with trusted friends or health care providers. Or you may have been taught that you must always do what certain members of your family want you to do. As an adult, it is important that you figure out for yourself what it is you want to do. In effect you can become your own loving parent.
- **Work to establish harmony with your family or the people you live with.** Plan fun and interesting activities with them. Listen to them without being critical.
- **Work on learning to communicate with others** so that they can easily understand what you mean. When talking with another person about your feelings, use "I" statements, like "I feel sad" or "I feel upset" rather than accusing the other person. You may want to practice good communication with a friend. Ask your friend to give you feedback on how you can be more easily understood.
- **You may have lots of negative thoughts about yourself and your life.** Work on changing these negative thoughts to positive ones. The more you think positive thoughts the better you will feel. For instance, you may always think, "Nobody likes me." When you think that thought, replace it with a thought like, "I have many friends." If you often think that you will never feel better, replace that thought with the thought, "Every day I am feeling better and better."
- **Develop an action plan for prevention and recovery**. This is a simple plan that helps you stay well and respond to upsetting symptoms and events in ways that will keep you feeling well.

Using the activities in the section "Things you can do to help yourself feel better," make lists of things that will help you keep yourself well and will help you to feel better when you are not feeling well. Include lists:

- to remind yourself of things you need to do every day - like getting a half hour of exercise and eating three healthy meals - and also those things that you may not need to do every day, but if you miss them they will cause stress in your life, for example, buying food, paying bills, or cleaning your home;
- of events or situations that may make you feel worse if they come up, like a fight with a family member, health care provider, or social worker, getting a big bill, or loss of something important to you. Then list things to do (relax, talk to a friend, play your guitar) if these things happen so you won't start feeling badly;
- of early warning signs that indicate you are starting to feel worse - like always feeling tired, sleeping too much, overeating, dropping things, and losing things. Then list things to do (get more rest, take some time off, arrange an appointment with your counselor, cut back on caffeine) to help yourself feel better;
- of signs that things are getting much worse, like you are feeling very depressed, you can't get out of bed in the morning, or you feel negative about everything. Then list things to do that will help you feel better quickly (get someone to stay with you, spend extra time doing things you enjoy, contact your doctor); and
- of information that can be used by others if you become unable to take care of yourself or keep yourself safe, such as signs that indicate you need their help, who you want to help you (give copies of this list to each of these people), the names of your doctor, counselor and pharmacist, all prescriptions and over-the-counter medications, things that others can do that would help you feel better or keep you safe, and things you do not want others to do or that might make you feel worse.

Barriers to Healing

Are there any things you are doing that are getting in the way of your healing, such as alcohol or drug abuse, being in abusive or unsupportive relationships, self-destructive behaviors such as blaming and shaming yourself, and not taking good care of yourself? Think about the possible negative consequences of these behaviors. For instance, if you get drunk, you might lose control of yourself and the situation and be taken advantage of. If you overeat, the negative consequences might be weight gain, poor body image, and poor health. You may want to work on changing these behaviors by using self-help books, working with a counselor, joining a support group, or attending a 12-step program.

Moving Forward on Your Healing Journey

If you are now about to begin working on recovering from the effects of trauma, or if you have already begun this work and are planning to continue making some changes based on what you have learned, you will need courage and persistence along the way. You may experience setbacks. From time to time you may get so discouraged that you feel like you want to give up. This happens to everyone. Notice how far you've come. Appreciate even a little progress. Do something nice for yourself and continue your efforts. You deserve an enjoyable life. Always keep in mind that there are many people, even famous people, who have had traumatic things happen to them. They have worked to relieve the symptoms of this trauma and have gone on to lead happy and rewarding lives. You can too.

Controlling Anger -- Before It Controls You

We all know what anger is, and we've all felt it: whether as a fleeting annoyance or as full-fledged rage.

Anger is a completely normal, usually healthy, human emotion. But when it gets out of control and turns destructive, it can lead to problems—problems at work, in your personal relationships, and in the overall quality of your life. And it can make you feel as though you're at the mercy of an unpredictable and powerful emotion. This brochure is meant to help you understand and control anger.

What is Anger?

The Nature of Anger

Anger is "an emotional state that varies in intensity from mild irritation to intense fury and rage," according to Charles Spielberger, PhD, a psychologist who specializes in the study of anger. Like other emotions, it is accompanied by physiological and biological changes; when you get angry, your heart rate and blood pressure go up, as do the levels of your energy hormones, adrenaline, and noradrenaline.

Anger can be caused by both external and internal events. You could be angry at a specific person (Such as a coworker or supervisor) or event (a traffic jam, a canceled flight), or your anger could be caused by worrying or brooding about your personal problems. Memories of traumatic or enraging events can also trigger angry feelings.

Expressing Anger

The instinctive, natural way to express anger is to respond aggressively. Anger is a natural, adaptive response to threats; it inspires powerful, often aggressive, feelings and behaviors, which allow us to fight and to defend ourselves when we are attacked. A certain amount of anger, therefore, is necessary to our survival.

On the other hand, we can't physically lash out at every person or object that irritates or annoys us; laws, social norms, and common sense place limits on how far our anger can take us.

People use a variety of both conscious and unconscious processes to deal with their angry feelings. The three main approaches are expressing, suppressing, and calming. Expressing your angry feelings in an assertive—not aggressive—manner is the healthiest way to express anger. To do this, you have to learn how to make clear what your needs are, and how to get them met, without hurting others. Being assertive doesn't mean being pushy or demanding; it means being respectful of yourself and others.

Anger can be suppressed, and then converted or redirected. This happens when you hold in your anger, stop thinking about it, and focus on something positive. The aim is to inhibit or suppress your anger and convert it into more constructive behavior. The danger in this type of response is that if it isn't allowed outward expression, your anger can turn inward—on yourself. Anger turned inward may cause hypertension, high blood pressure, or depression.

Unexpressed anger can create other problems. It can lead to pathological expressions of anger, such as passive-aggressive behavior (getting back at people indirectly, without telling them why, rather than confronting them head-on) or a personality that seems perpetually cynical and hostile. People who are constantly putting others down, criticizing everything, and making cynical comments haven't learned how to constructively express their anger. Not surprisingly, they aren't likely to have many successful relationships.

Finally, you can calm down inside. This means not just controlling your outward behavior, but also controlling your internal responses, taking steps to lower your heart rate, calm yourself down, and let the feelings subside.

As Dr. Spielberger notes, "when none of these three techniques work, that's when someone—or something—is going to get hurt."

Anger Management

The goal of anger management is to reduce both your emotional feelings and the physiological arousal that anger causes. You can't get rid of, or avoid, the things or the people that enrage you, nor can you change them, but you can learn to control your reactions.

Are You Too Angry?

There are psychological tests that measure the intensity of angry feelings, how prone to anger you are, and how well you handle it. But chances are good that if you do have a problem with anger, you already know it. If you find yourself acting in ways that seem out of control and frightening, you might need help finding better ways to deal with this emotion.

Why Are Some People More Angry Than Others?

According to Jerry Deffenbacher, PhD, a psychologist who specializes in anger

management, some people really are more "hotheaded" than others are; they get angry more easily and more intensely than the average person does. There are also those who don't show their anger in loud spectacular ways but are chronically irritable and grumpy. Easily angered people don't always curse and throw things; sometimes they withdraw socially, sulk, or get physically ill.

People who are easily angered generally have what some psychologists call a low tolerance for frustration, meaning simply that they feel that they should not have to be subjected to frustration, inconvenience, or annoyance. They can't take things in stride, and they're particularly infuriated if the situation seems somehow unjust: for example, being corrected for a minor mistake.

What makes these people this way? A number of things. One cause may be genetic or physiological: There is evidence that some children are born irritable, touchy, and easily angered, and that these signs are present from a very early age. Another may be sociocultural. Anger is often regarded as negative; we're taught that it's all right to express anxiety, depression, or other emotions but not to express anger. As a result, we don't learn how to handle it or channel it constructively.

Research has also found that family background plays a role. Typically, people who are easily angered come from families that are disruptive, chaotic, and not skilled at emotional communications.

Is It Good To "Let it All Hang Out?"

Psychologists now say that this is a dangerous myth. Some people use this theory as a license to hurt others. Research has found that "letting it rip" with anger actually escalates anger and aggression and does nothing to help you (or the person you're angry with) resolve the situation.

It's best to find out what it is that triggers your anger, and then to develop strategies to keep those triggers from tipping you over the edge.

Strategies To Keep Anger At Bay

Relaxation

Simple relaxation tools, such as deep breathing and relaxing imagery, can help calm down angry feelings. There are books and courses that can teach you relaxation techniques, and once you learn the techniques, you can call upon them in any situation. If you are involved in a relationship where both partners are hot-tempered, it might be a good idea for both of you to learn these techniques.

Some simple steps you can try:

- Breathe deeply, from your diaphragm; breathing from your chest won't relax you. Picture your breath coming up from your "gut."
- Slowly repeat a calm word or phrase such as "relax," "take it easy." Repeat it to yourself while breathing deeply.
- Use imagery; visualize a relaxing experience, from either your memory or your imagination.
- Nonstrenuous, slow yoga-like exercises can relax your muscles and make you feel much calmer.

Practice these techniques daily. Learn to use them automatically when you're in a tense situation.

Cognitive Restructuring

Simply put, this means changing the way you think. Angry people tend to curse, swear, or speak in highly colorful terms that reflect their inner thoughts. When you're angry, your thinking can get very exaggerated and overly dramatic. Try replacing these thoughts with more rational ones. For instance, instead of telling yourself, "oh, it's awful, it's terrible, everything's ruined," tell yourself, "it's frustrating, and it's understandable that I'm upset about it, but it's not the end of the world and getting angry is not going to fix it anyhow."

Be careful of words like "never" or "always" when talking about yourself or someone else. "This !&*%@ machine never works," or "you're always forgetting things" are not just inaccurate, they also serve to make you feel that your anger is justified and that there's no way to solve the problem. They also alienate and humiliate people who might otherwise be willing to work with you on a solution.

Remind yourself that getting angry is not going to fix anything, and that it won't make you feel better (and may actually make you feel worse).

Logic defeats anger, because anger, even when it's justified, can quickly become irrational. So use cold hard logic on yourself. Remind yourself that the world is "not out to get you," you're just experiencing some of the rough spots of daily life. Do this each time you feel anger getting the best of you, and it'll help you get a more balanced perspective. Angry people tend to demand things: fairness, appreciation, agreement, willingness to do things their way. Everyone wants these things, and we are all hurt and disappointed when we don't get them, but angry people demand them, and when their demands aren't met, their disappointment becomes anger. As part of their cognitive restructuring, angry people need to become aware of their demanding nature and translate their expectations into desires. In other words, saying, "I would like" something is healthier than saying, "I demand" or "I must have" something. When you're unable to get what you want, you will experience the normal reactions—frustration, disappointment, hurt—but not anger. Some angry people use this anger as a way to avoid feeling hurt, but that doesn't mean the hurt goes away.

Problem Solving

Sometimes, our anger and frustration are caused by very real and inescapable problems in

our lives. Not all anger is misplaced, and often it's a healthy, natural response to these difficulties. There is also a cultural belief that every problem has a solution, and it adds to our frustration to find out that this isn't always the case. The best attitude to bring to such a situation, then, is not to focus on finding the solution, but rather on how you handle and face the problem.

Make a plan, and check your progress along the way. Resolve to give it your best, but also not to punish yourself if an answer doesn't come right away. If you can approach it with your best intentions and efforts and make a serious attempt to face it head-on, you will be less likely to lose patience and fall into all-or-nothing thinking, even if the problem does not get solved right away.

Better Communication

Angry people tend to jump to—and act on—conclusions, and some of those conclusions can be very inaccurate. The first thing to do if you're in a heated discussion is slow down and think through your responses. Don't say the first thing that comes into your head, but slow down and think carefully about what you want to say. At the same time, listen carefully to what the other person is saying and take your time before answering.

Listen, too, to what is underlying the anger. For instance, you like a certain amount of freedom and personal space, and your "significant other" wants more connection and closeness. If he or she starts complaining about your activities, don't retaliate by painting your partner as a jailer, a warden, or an albatross around your neck.

It's natural to get defensive when you're criticized, but don't fight back. Instead, listen to what's underlying the words: the message that this person might feel neglected and unloved. It may take a lot of patient questioning on your part, and it may require some breathing space, but don't let your anger—or a partner's—let a discussion spin out of control. Keeping your cool can keep the situation from becoming a disastrous one.

Using Humor

"Silly humor" can help defuse rage in a number of ways. For one thing, it can help you get a more balanced perspective. When you get angry and call someone a name or refer to them in some imaginative phrase, stop and picture what that word would literally look like. If you're at work and you think of a coworker as a "dirtbag" or a "single-cell life form," for example, picture a large bag full of dirt (or an amoeba) sitting at your colleague's desk, talking on the phone, going to meetings. Do this whenever a name comes into your head about another person. If you can, draw a picture of what the actual thing might look like. This will take a lot of the edge off your fury; and humor can always be relied on to help unknot a tense situation.

The underlying message of highly angry people, Dr. Deffenbacher says, is "things oughta go my way!" Angry people tend to feel that they are morally right, that any blocking or

changing of their plans is an unbearable indignity and that they should NOT have to suffer this way. Maybe other people do, but not them!

When you feel that urge, he suggests, picture yourself as a god or goddess, a supreme ruler, who owns the streets and stores and office space, striding alone and having your way in all situations while others defer to you. The more detail you can get into your imaginary scenes, the more chances you have to realize that maybe you are being unreasonable; you'll also realize how unimportant the things you're angry about really are. There are two cautions in using humor. First, don't try to just "laugh off" your problems; rather, use humor to help yourself face them more constructively. Second, don't give in to harsh, sarcastic humor; that's just another form of unhealthy anger expression.

What these techniques have in common is a refusal to take yourself too seriously. Anger is a serious emotion, but it's often accompanied by ideas that, if examined, can make you laugh.

Changing Your Environment

Sometimes it's our immediate surroundings that give us cause for irritation and fury. Problems and responsibilities can weigh on you and make you feel angry at the "trap" you seem to have fallen into and all the people and things that form that trap.

Give yourself a break. Make sure you have some "personal time" scheduled for times of the day that you know are particularly stressful. One example is the working mother who has a standing rule that when she comes home from work, for the first 15 minutes "nobody talks to Mom unless the house is on fire." After this brief quiet time, she feels better prepared to handle demands from her kids without blowing up at them.

Some Other Tips for Easing Up on Yourself

Timing: If you and your spouse tend to fight when you discuss things at night—perhaps you're tired, or distracted, or maybe it's just habit—try changing the times when you talk about important matters so these talks don't turn into arguments.

Avoidance: If your child's chaotic room makes you furious every time you walk by it, shut the door. Don't make yourself look at what infuriates you. Don't say, "well, my child should clean up the room so I won't have to be angry!" That's not the point. The point is to keep yourself calm.

Finding alternatives: If your daily commute through traffic leaves you in a state of rage and frustration, give yourself a project—learn or map out a different route, one that's less congested or more scenic. Or find another alternative, such as a bus or commuter train.

Do You Need Counseling?

If you feel that your anger is really out of control, if it is having an impact on your

relationships and on important parts of your life, you might consider counseling to learn how to handle it better. A psychologist or other licensed mental health professional can work with you in developing a range of techniques for changing your thinking and your behavior.

When you talk to a prospective therapist, tell her or him that you have problems with anger that you want to work on, and ask about his or her approach to anger management. Make sure this isn't only a course of action designed to "put you in touch with your feelings and express them"—that may be precisely what your problem is. With counseling, psychologists say, a highly angry person can move closer to a middle range of anger in about 8 to 10 weeks, depending on the circumstances and the techniques used.

What About Assertiveness Training?

It's true that angry people need to learn to become assertive (rather than aggressive), but most books and courses on developing assertiveness are aimed at people who don't feel enough anger. These people are more passive and acquiescent than the average person; they tend to let others walk all over them. That isn't something that most angry people do. Still, these books can contain some useful tactics to use in frustrating situations.

Remember, you can't eliminate anger—and it wouldn't be a good idea if you could. In spite of all your efforts, things will happen that will cause you anger; and sometimes it will be justifiable anger. Life will be filled with frustration, pain, loss, and the unpredictable actions of others. You can't change that; but you can change the way you let such events affect you. Controlling your angry responses can keep them from making you even more unhappy in the long run.

Helping Teenagers Cope With Stress

Facts For Families; No. 66; Updated May 2005; www.aacap.org

Teenagers, like adults, may experience stress everyday and can benefit from learning stress management skills. Most teens experience more stress when they perceive a situation as dangerous, difficult, or painful and they do not have the resources to cope. Some sources of stress for teens might include:

- school demands and frustrations
- negative thoughts and feelings about themselves
- changes in their bodies
- problems with friends and/or peers at school
- unsafe living environment/neighborhood
- separation or divorce of parents
- chronic illness or severe problems in the family
- death of a loved one
- moving or changing schools
- taking on too many activities or having too high expectations
- family financial problems

Some teens become overloaded with stress. When it happens, inadequately managed stress can lead to anxiety, withdrawal, aggression, physical illness, or poor coping skills such as drug and/or alcohol use.

When we perceive a situation as difficult or painful, changes occur in our minds and bodies to prepare us to respond to danger. This "fight, flight, or freeze" response includes faster heart and breathing rate, increased blood to muscles of arms and legs, cold or clammy hands and feet, upset stomach and/or a sense of dread.

The same mechanism that turns on the stress response can turn it off. As soon as we decide that a situation is no longer dangerous, changes can occur in our minds and bodies to help us relax and calm down. This "relaxation response" includes decreased heart and breathing rate and a sense of well being. Teens that develop a "relaxation response" and other stress management skills feel less helpless and have more choices when responding to stress.

Parents can help their teen in these ways:

- Monitor if stress is affecting their teen's health, behavior, thoughts, or feelings
- Listen carefully to teens and watch for overloading
- Learn and model stress management skills
- Support involvement in sports and other pro-social activities

Teens can decrease stress with the following behaviors and techniques:

- Exercise and eat regularly
- Avoid excess caffeine intake which can increase feelings of anxiety and agitation

- Avoid illegal drugs, alcohol and tobacco
- Learn relaxation exercises (abdominal breathing and muscle relaxation techniques)
- Develop assertiveness training skills. For example, state feelings in polite firm and not overly aggressive or passive ways: ("I feel angry when you yell at me" "Please stop yelling.")
- Rehearse and practice situations which cause stress. One example is taking a speech class if talking in front of a class makes you anxious
- Learn practical coping skills. For example, break a large task into smaller, more attainable tasks
- Decrease negative self talk: challenge negative thoughts about yourself with alternative neutral or positive thoughts. "My life will never get better" can be transformed into "I may feel hopeless now, but my life will probably get better if I work at it and get some help"
- Learn to feel good about doing a competent or "good enough" job rather than demanding perfection from yourself and others
- Take a break from stressful situations. Activities like listening to music, talking to a friend, drawing, writing, or spending time with a pet can reduce stress
- Build a network of friends who help you cope in a positive way

By using these and other techniques, teenagers can begin to manage stress.

If a teen talks about or shows signs of being overly stressed, a consultation with a child and adolescent psychiatrist or qualified mental health professional may be helpful.

Perhaps the only thing more difficult than being a teenager is parenting one.

While hormones, the struggle for independence, peer pressure, and an emerging identity wreak havoc in the soul of the adolescent, issues of how much autonomy to grant, how much "attitude" to take, what kind of discipline is effective, which issues are worth fighting about, and how to talk to offspring-turned-alien challenge parental creativity, patience, and courage.

If adolescence can be conceptualized as a journey from childhood to adulthood, parenting adolescents can also be thought of as a journey.

To guide a child to adulthood, to ingrain values, to help negotiate social relationships, and to see new ideas, ideals, goals, and independence emerge in a child can be the adventure of a lifetime. Like any adventure, the thrill is in the journey.

Challenges conquered sweeten success, and while failure is in part unavoidable, no one can know how the balance of success and failure measures out until the journey is complete. As long as the journey continues, there is hope: a chance to turn failures into success, weaknesses to strengths.

Like any adventure, the challenges are unique to each traveler. Even the same parent will experience different challenges as each child is guided through adolescence. Because each journey is unique, there is no way to smooth all the bumps, anticipate all the challenges, or detonate all the land mines beforehand. However, there are aspects of the journey that appear to be universal.

Although teenagers will make their own choices, a good home life can increase the odds that kids will avoid many of the pitfalls of adolescence. Particularly, a kind, warm, solid relationship with parents who demonstrate respect for their children, an interest in their children's activities, and set firm boundaries for those activities may directly or indirectly deter criminal activity, illegal drug and alcohol use, negative peer pressure, delinquency, sexual promiscuity, and low self-esteem.

There is not only growing consensus that some parenting techniques are better than others, but also contribute to the development of emotional stability and social responsibility in children.

There are three major areas that are crucial to the parent-adolescent relationship -- **connection**, **monitoring**, and **psychological autonomy**.

First, a sense of connection between a teenager and parent provides a backdrop against which all other interaction takes place. If the parent-child connection is consistent, positive, and characterized by warmth, kindness, love, and stability, children are more likely to flourish socially. Adolescents who describe their relationship with their parents as warm, kind, and consistent are more likely to initiate social interaction with other adolescents and with other adults. They are more likely to respond to others positively and with greater empathy. They are more likely to be self-confident in their relationships with others, and to be more cooperative with others. Also, teens with these kinds of positive relationships with their parents on the whole struggle less with depression, and have higher self-esteem. Relationships characterized by kindness and devoid of unkind words or acts appear to be important to healthy adolescent development.

In addition to the sense of connection between parent and teenager, the monitoring process is crucial to successful parenting. Teenagers who report that their parents take a genuine interest in their activities are more likely to avoid trouble. Teens whose parents know

who their friends are and what they do in their free time are less likely to get into trouble than their peers. In the context of a warm, kind relationship, parental monitoring of teen activities comes across as caring rather than intrusive. Teenagers whose parents monitor them are more likely to avoid activities like lying, cheating, stealing, and using alcohol and illegal drugs. Parental monitoring of adolescent behavior inhibits not only the opportunity for delinquent activity, but negative peer pressure to be involved in such activity as well.

Finally, parents need to encourage the development of psychological autonomy in their teenage children. Psychological autonomy is nurtured in children when parents genuinely respect their teen's ideas, even when the ideas are contrary to their own. Encouraging independent thinking and the expression of original ideas and beliefs, validating feelings, and expressing unconditional love are ways to nurture psychological autonomy. The opposite of psychological autonomy is psychological control, which is characterized by changing the subject, making personal attacks, withdrawing love, or inducing guilt to constrain intellectual, emotional, or psychological expression by the adolescent that is incongruent with the parent's way of thinking. Adolescents who report that their parents are likely to use techniques associated with psychological control are more apt to struggle with depression and to exhibit anti-social behavior.

The combination of **connection**, **monitoring**, and **psychological autonomy** may sound simple, but the simplicity of the directions can be frustrating to navigators when they are lost. Translating general ideas into specific behaviors, and then into patterns of interaction can be a challenge, especially if one or both parties are already entrenched in less productive patterns of interaction. The task of establishing a warm, caring, positive, relationship characterized by kindness with a teenager whose favorite phrases are "you just don't understand" and "leave me alone" can be daunting.

While it is true that one of the main developmental tasks of adolescence is to separate from parents, and that peer influence takes on greater and greater importance during teen years, there is still no substitute for the parent-teen relationship.

It is important to spend time with teenagers.

Parents who wish to enhance their connection with their teenager often find that choosing leisure activities wisely can do much to further the cause. In addition to the opportunity to spend time together amiably, engaging teenagers in fun activities that foster sportsmanship, service, creativity, intellectual development, etiquette, honesty, and respect for each other brings all of those aspects into the parent-child relationship, providing an enjoyable forum for both teenagers and parents to practice those skills with one another.

Engaging in recreational activities with teenagers is a way to connect regularly in a pleasant setting. Regular, positive interaction is crucial if discipline is to be effective. When the parent/child relationship is built on a foundation of warmth and kindness, it can withstand the unpleasantness of discipline. Parties to relationships void of such a foundation often either disengage or become conflicted in the face of the uncomfortable consequences imposed by discipline.

Spending leisure time together also gives parents a leg-up on the monitoring process. First, it cuts down on the amount of free time kids spend without supervision. Second, discussions about friends and other leisure activities tend to come up easily, and can be discussed in a relaxed atmosphere. Often, parents get a chance to know their teenager's friends through recreational activities, either by attending school or team performances in which their child is involved with friends, or by allowing a child to invite a friend along on a family outing.

Perhaps the most difficult thing about the monitoring process is that it is a delicate balance between too much and too little, and it requires the energy to set firm limits when it would just be easier to let things slide. It requires continued vigilance on the part of parents to ensure that they know where children are and what they are doing. It also requires that parents enforce consequences when family rules are broken. Although discipline is genuinely unpleasant for all involved, attention to monitoring activities and providing consequences for inappropriate behavior on a daily basis will alleviate major heartache later.

Parents should remember that the prime directive of adolescence ("independence or bust") prohibits teenagers from admitting that having parents set firm boundaries is actually

reassuring.

Adolescence is a time of change and upheaval.

Family rules and boundaries can provide a sense of stability to teens who are struggling to decipher relationships, roles, and even their own personalities. Although they may protest loudly against being required to live up to certain standards, when they have a hand in crafting those standards, and when those standards are demanding but fair, teenagers will flourish. Having something steady, firm, and predictable in a head spinning world is like being handed a map, with NORTH plainly marked. Clear boundaries and standards are the gauge by which all other information is measured.

Disciplining teenagers is difficult, but it is critical if teens are to learn that their behavior has consequences.

Some of the odiousness of enforcing rules can be eliminated by engaging children in the process of setting the rules and assigning consequences before the rules are broken.

When parents include teenagers in establishing clear rules about appropriate behavior and consequences, the arguments over rules and punishment end. Children can no longer claim that punishments or expectations are unfair, and parents can take on the role of calmly enforcing the pre-arranged consequences instead of having to impress upon the child the seriousness of the problem and scramble to find an appropriate punishment**.**

The temptation to react emotionally when children break rules is alleviated because a breach of the rules is no longer perceived as an assault on parental authority, since it is by the authority of the family, not the authority of the parents, that the rules were established. Helping to set the rules may not dissuade teenagers from breaking them sometimes, but it can help parents to avoid a power struggle with their teenagers.

Another big trap in parent-teen relationships is the confusion of psychological control (the opposite of psychological autonomy) with discipline. Demanding a certain level of behavior of children does not exclude allowing, or even encouraging them to think and express opinions different than one's own.

Too many parents get caught up in focusing on controlling their child, believing that controlling the way their child thinks will translate into controlling what their child does. By using guilt, withdrawing love, or invalidating feelings or beliefs, the parent hopes to make the child see things the parent's way, ensuring compliance with parental expectations.

There is a fine line here; one of the roles of parents is to help children make sense of the world by offering explanations or interpretations of events. It is when these parental offerings take on the tone of exclusiveness -- when parents cannot respectfully consider and discuss a teenager's interpretation of his or her own experience -- that psychological control has taken over.

Parents should also be aware that it is the teenager's perspective on the forcefulness of the suggestion which counts. Psychological control is damaging if it is perceived by the teenager, regardless of parental intention. While a parent may feel that a discussion has taken on the tone of a healthy debate, to a teenager the same interchange can feel absolutely crushing.

Interestingly, boys are more likely to report that their parents squelch their psychological autonomy than are girls. Whether this is a difference in the way parents actually relate to teenage boys versus teenage girls, or whether it is a difference in perception of boys versus girls is unclear.

When discipline becomes a matter of calmly enforcing family rules about behavior, many of the problems associated with psychological control are alleviated.

When children have a problem with delinquency, parents generally tend to respond to it with less behavioral control, and more psychological control as time goes by. This appears to set up a vicious cycle, as teenagers respond to both lack of monitoring and the presence of psychological control by acting out, or becoming more delinquent.

If parents can break this cycle by treating delinquent behavior with increased monitoring rather than attempting to control it by inducing guilt, withdrawing love, or other means of psychological control, teenagers are more likely to respond with better behavior.

In short, parents who concentrate on trying to control their child's behavior rather than trying to control their child are going to have much more success and a lot less grief.

Parents who expect that children will sometimes act in ways that are inappropriate or undesirable, but prepare for such behavior by involving their children in the formulation of rules and consequences, may discover that the joy is in the journey, and heaven is found along the way.

Parents would do well to concentrate on a three-pronged approach to managing the journey.

First, *a positive relationship* with their child is essential to success. When parent-child interactions are characterized by warmth, kindness, consistency, respect, and love, the relationship will flourish, as will self-esteem, mental health, spirituality, and social skills.

Second, *being genuinely interested* in children's activities allows parents to monitor behavior, which is crucial in keeping teens out of trouble. When misbehavior does occur, parents who have involved their children in setting family rules and consequences can expect less flack from their children as they calmly enforce the rules. Parents who, together with their children, set firm boundaries and high expectations may find that their children's abilities to live up to those expectations grow.

Third, parents who *encourage independent thought and expression* in their children may find that they are raising children who have a healthy sense of self and an enhanced ability to resist peer pressure.

Parents who give their teenagers their love, time, boundaries, and encouragement to think for themselves may find that they actually enjoy their children's adventure through adolescence.

As they watch their sons and daughters grow in independence, make decisions, and develop into young adults, they may find that the child they have reared is, like the breathtaking view of the newborn they held for the first time, even better than they could have imagined.

This information and advice comes primarily from researchers at Brigham Young University. With the largest number of family scholars in the nation, and a strong commitment to cross-disciplinary research, Brigham Young University's Family Studies Center is committed to supporting and developing high-quality research on the family.

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http://www.focusas.com/Parenting.html

Appendix C

COPY-READY WORKSHEETS FOR BRIEF INTERVENTION

Forms For Adolescent Sessions

CLIENT QUESTIONNAIRE

Name:_____ **Date:**_____

- This questionnaire asks about you and your experiences. Some questions ask how often you have used alcohol and other drugs. Others ask how much you agree with a statement.
- Please read each question carefully. Circle the answer that is right for you.
- Please answer every question.

PART I

DURING THE PAST 12 MONTHS, HOW MANY TIMES (IF ANY)		**Never**	**1-2**	**3-5**	**6-9**	**10-19**	**20-39**	**40+**
1. Have you had alcoholic beverages (including beer, wine, and liquor) to drink?	1	2	3	4	5	6	7	
2. Have you used marijuana (grass, pot) or hashish (hash, hash oil)?	1	2	3	4	5	6	7	
3. Have you used drugs other than alcohol and marijuana?	1	2	3	4	5	6	7	

4. If you have used other drugs, put an **X** in the space next to each drug that you have used at least **once during the past 12 months.**

_____ cocaine (coke, crack)

_____ amphetamines (such as uppers, speed, bennies)

_____ barbiturates (such as downs, goofballs, yellows, blues)

_____ heroin (smack, horse, skag)

_____ other narcotics (such as methadone, opium, morphine, codeine, Demerol)

_____ tranquilizers (such as Librium, valium)

_____ psychedelics (such as LSD, PCP)

_____ inhalants (such as glue, aerosol cans, gases, white-out)

_____ club drugs (meth, Ecstasy, MDMA, Special K, GHB, roofies)

_____ over the counter drugs (DXM, cough syrup, NoDoz)

_____ prescription drugs (not taken as prescribed)

PART II (PRQ)

The next set of questions asks whether you disagree or agree with these statements. Make a check mark in the appropriate blank.

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
1. My use of alcohol or drugs has caused many problems in my life…….	_____	_____	_____	_____
2. I can quit using alcohol or drugs on my own…….	___	_____	_____	_____
3. I am glad to be in this program……..….	___	_____	_____	_____
4. My problems are caused by alcohol or drugs ……	_____	_____	_____	_____
5. I believe I have a problem with alcohol or drugs……..……	_____	_____	_____	_____
6. My use of alcohol or drugs has hurt others	___	_____	_____	_____
7. I want to change my life and get away from alcohol and drugs……	_____	_____	_____	_____

8. I came to this program on my own…….. _____ _____ _____ _____

9. There are many good reasons for me to

stop using alcohol or drugs……. _____ _____ _____ _____

10. I am in this program because of

bad luck…… _____ _____ _____ _____

11. I know why people are so upset about

my alcohol or drug use…… _____ _____ _____ _____

12. I need help for my alcohol/drug problems___ _____ _____ _____

13. Using alcohol or drugs is a real problem

in my life…….. _____ _____ _____ _____

	Strongly Disagree	Disagree	Agree	Strongly Agree
14. I can control my alcohol or drug use……				
15. I have a bad alcohol or drug problem…..				
16. I came to this program because of school or legal problems……				
17. It will be a struggle for me to stop using alcohol or drugs……				
18. People sent me to this program to get me out of the way……..				
19. It's okay for me to use alcohol or drugs now and then…….				
20. I need to stop using alcohol or drugs completely……				
21. I have more important things to do than to be in this program……				
22. I need help to stop using alcohol or drugs				

23. I am willing to give up my old friends so

I can stop using drugs or drinking…… _____ _____ _____ _____

24. I was forced into coming to this program _____ _____ _____ _____

25. I think some type of help for my

alcohol or drug use is a good thing for me___ _____ _____ _____

Scoring PART II (PRQ) of the Client Questionnaire

1. Assign these values to the response options:

Strongly Disagree = 1

Disagree = 2

Agree = 3

Strongly Agree = 4

2. Compute unweighted total score on the PRQ using these four steps:

(Note: Some items have reverse scoring and some are not scored)

Step 1 Compute: Q1 + Q3 + Q4 + Q5 + Q6 + Q7 + Q9 + Q11 + Q12 + Q13 + Q15 + Q17 + Q20 + Q22 + Q23 + Q25 = **PRQ1**

Step 2 Note: Reverse the scores assigned to Q2, Q14, Q19, Q21, and Q24

Such that:

1 = 4, 2 = 3, 3 = 2, 4 = 1

Step 3 Compute: Q2 + Q14 + Q19 + Q21 + Q24 = **PRQ2**

Step 4 Compute: **PRQ1 + PRQ2 = PRQ Score**

3. Interpretation guidelines

Low recognition of a problem: **PRQ Score = 21 – 39**

Moderate recognition of a problem: **PRQ Score = 40 – 59**

High recognition of a problem: **PRQ Score = 60+**

PROS AND CONS WORKSHEET

Name/ID: _____ **Date:** _____

In the space below, write down some of the positive reasons for your continued substance use. Be specific.

1. The pros of my using are:

A. _____

B. _____

C. _____

D. _____

In the space below, write down some of the negative reasons for your continued substance use.

2. The cons of my using are:

A. _____

B. _____

C. _____

D. _____

Now think of some of the positive and negative outcomes would be with changing your substance use. Write some ideas below.

3. The pros of my choice to change my using habits are:

A. _____

B. _____

C. _____

D. _____

4. The cons of my choice to change my using habits are:

A. _____

B. _____

C. _____

D. _____

My friends think: _____

My parents/guardians think: _____

My siblings/extended family think: _____

The attitudes of all these people affect my decision about using by: _____

_____

TRIGGERS AND CRAVINGS WORKSHEET

Name/ID_____Date_____

Circle the reason or reasons for your own drug or alcohol use.

- **Boredom** – feeling that there is nothing else to do that is worthwhile. Some people use drugs or alcohol to make the boredom pass more quickly or to make boring activities seem more fun.

- **Escape** – to avoid uncomfortable situations, arguments, memories, or actual physical pain. Some people want to escape from their pain and use drugs and/or alcohol to make themselves feel numb or to forget.

- **Relaxation** – to unwind and reduce tension. Some people don't know how to relax without using drugs.

- **Socialization** – involves social settings such as a party or family gathering. Many people who are shy or uncomfortable in these situations use alcohol and drugs to help to reduce this uncomfortable feeling in themselves and to help them relax in this type of situation.

- **Improved self-image** – to make one's self look better in the eyes of others.

- **Attraction or Romance** – to invoke excitement or the feeling of being in love or having someone be attracted to one's self.

- **To hell with it** – when a person has just given up trying to reach any worthwhile goal. This is a person that feels that nothing matters and there is no reason for them to try.

- **No control** – a person who gives up trying to control his or herself. People who feel like this think that they just don't want to make any more effort to fight the urge to drink or use drugs.

Other – please describe: _____

_____

_____

WHAT SETS OFF YOUR DRUG AND/OR ALCOHOL USE WORKSHEET
HOW CAN YOU RESPOND?

Name/ID: _____ Date: _____

In the first column, list the reasons/triggers of what sets off the student's use of drugs and/or alcohol. In the second column, list several alternatives to prevent or control these causes and influences.

TRIGGER	**ALTERNATIVE**
1.	**1.**
2.	**2.**
3.	**3.**
4.	**4.**

Assist the youth in envisioning situations in which triggers or cravings may appear, then finding alternative situations or activities to modify those triggers. Suggested scenarios are listed below.

TRIGGERS AND CRAVINGS SCENARIOS

1. You are at a party with your friends and someone passes you a joint. You don't feel like smoking it just now. What would you do? Is there another way/healthier way that you could handle this situation?

_____

_____

_____

_____

2. You have had a really hard day. You got an "F" on your test, your best friend has turned on you and you are really frustrated. How would you have handled this situation in the past? What can you do now instead of using drugs and/or alcohol?

_____

_____

_____

_____

3. You have a big presentation in front of the entire school tomorrow. You are really nervous and are having a hard time falling to sleep. What have you done in the past to relieve this anxiety? What else could you do?

_____

_____

_____

READY TO CHANGE WORKSHEET I

Name/ID: _____ Date: _____

Here is a scale that will help us to determine how ready you are to change your use of alcohol and/or drugs. Place a number on the scale that indicates how you feel about this right now.

1 2 3 4 5 6 7 8 9 10

Not ready somewhat ready very ready

Please circle below one of the following that best describes you right now.

1. I don't want to quit/reduce using drugs and/or alcohol.

2. I don't really like to use drugs and/or alcohol but I don't want to stop/reduce right now.

3. I am thinking about stopping/reducing my use of drugs and/or alcohol.

4. I have definitely decided that I want to stop/reduce using drugs and/or alcohol.

5. I have already stopped/reduced using drugs and/or alcohol.

ESTABLISH GOALS WORKSHEET

Name/ID: _____ Date: _____

In the space below, write down some healthy goals that you will work on during the next week, including at least one drug or alcohol goal.

1. _____

2. _____

3. _____

4. _____

What might get in the way of trying to reach these goals?

1. _____

2. _____

3. _____

4. _____

Where does this leave us now? What can you do to prevent these obstacles?

1. _____

2. _____

3. _____

4. _____

ADVANTAGES OF NOT USING

- Keep your head clear
- Better relationship with family
- Feel better physically
- Save money
- Would not have to hide it anymore
- Feel better about yourself
- Think more clearly
- More time to enjoy hobbies, sports, etc.
- Better able to control moods and feelings
- Good for my weight (less calories)
- Don't have to worry about making a fool of yourself at parties
- Don't wake up wondering what happened the night before
- No more hangovers
- Self-confidence from overcoming the urge to use
- Wouldn't have a bad reputation
- Wouldn't regret things
- Health reasons
- Improved communication skills – not so snappy
- Better sleep
- Not so worried about others knowing
- Improved relationships with others, including family
- More time for yourself and your family and friends
- Able to plan for your future more clearly

SOCIAL SUPPORT WORKSHEET

Name/ID: _____ Date: _____

Answer the following questions to the best of your ability

1. Who do you think may be able to offer you support?

_____

_____

_____

Suggestions:

- Think of people who have been helpful to you in the past such as friends, family members or other people that you know.
- Find people who are not biased. Those who will not pick sides.
- If you can't think of people who can be of help to you now, think of those who may be helpful later on.

2. Think of ways that these supportive people can help you. List at least three.

_____

_____

_____

3. Name someone to whom you are supportive?. Tell how you support them.

_____

_____

(Adapted from Sampl, S. and Kadden, R. (2001). Motivational Enhancement Therapy and Cognitive Behavioral Therapy for Adolescent Cannabis Users: 5 Sessions. U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment.)

READY TO CHANGE WORKSHEET - II

Name/ID: _____ Date: _____

1. Are you seriously thinking about changing your drug and/or alcohol use within ***the next six months***?

YES MAYBE NO

2. Are you seriously thinking about changing your drug and/or alcohol use within ***the next month***?

YES MAYBE NO

Here is the same scale that you have seen before. This will help us to determine how ready you are now to change your use of drugs and/or alcohol. Place a number on the scale that indicates how you feel about this today.

1 2 3 4 5 6 7 8 9 10

Not ready Somewhat ready Very ready

Please circle below one of the following that best describes you right now.

1. I don't want to quit/reduce using drugs and/or alcohol.
2. I don't really like to use drugs and/or alcohol but I don't want to stop/ cut down right now.
3. I am thinking about stopping/reducing my use of drugs and/or alcohol.
4. I have definitely decided that I want to stop/reduce using drugs and/or alcohol.
5. I have already stopped/reduced using drugs and/or alcohol.

RESTABLISH GOALS WORKSHEET

Name/ID: _____ Date: _____

Therapist, write down revised goals discussed for the immediate future (up to the next event, holiday etc).

1. _____

2. _____

3. _____

Therapist, write down revised goals discussed for 1 year from now.

1. _____

2. _____

3. _____

Where does this leave us now? What can you do to prevent these obstacles?

1. _____

2. _____

3. _____

4. _____

Alternatives to saying "no" to alcohol and other drugs

- Not now, I'm not ready
- Just say "no thank you" and leave it at that
- Give a reason or excuse (e.g., "no thanks, I have a test/big game tomorrow")
- Broken record – keeping saying no over and over again
- Walk away – ignore the person and the situation
- Avoid the situation – if you know there will be drugs/alcohol at the party don't go
- Change the subject – start talking about something else
- Strength in numbers – be with friends that you can trust
- Use humor – make a joke of the situation
- Use your health as an excuse – (e.g., "I'm allergic to smoke")
- Reverse the pressure - (e.g., "If you want a beer so badly get one yourself")
- Be honest tell them you are not into it – (e.g., "It's just not my thing")
- Suggest an alternative – try something else to do

Immediate Goals up to _____(list event, holiday, etc.)

1. _____
2. _____
3. _____

Goals 1 YEAR from now

1. _____
2. _____
3. _____
4. _____

Forms For Parent or Guardian Session

PARENT/GUARDIAN WORKSHEET

Name/ID: _____ Date: _____

I would like to start by asking a few questions about (child's name) experiences and relationships that might help us get a better feel for what we can focus on to help her/him make healthy choices. Feel free to ask any questions that you may have as we go along.

1. Can you tell me a little about your son/daughter's interests/hobbies? What are his/her strengths? What are things that are difficult for her/him. (*Try to find out level of activity. Is he/she in groups., clubs, etc.)*

_____

_____

_____

1. How is (child's name) connection with school? How is his/her school performance? Have there been changes with his/her performance/connection to school? How do you feel about the friends he/she hangs out with?

_____

_____

2. Understanding that adolescence is a time of building independence from parents, does _(child's name)_ do things with the family much? How would you describe the relationship you (or other members of the family) with him/her? How satisfied are you with these relationships?

_____

_____

_____

3. Regarding (child's name) use of alcohol or other drug, what do you think has contributed to his or her use? [*Discuss factors that contribute to drug use among teens (e.g., poor school connection, friends that use, lack of involvement with activities, etc.) Use this as a segue to discuss family factors that contribute including genetic and environmental factors. Inquire about individuals in the home who may have difficulties with drug use]. If others have a history of use*, what has your child's reaction to their use been?

_____

_____

_____

4. Have you discussed with any friends or other family members about what to do about your son/daughter's using? Has there been anyone who has been supportive and/or helpful in this journey to help your child?

5. What steps, if any, have you taken already to try to prevent or reduce your son/daughter's use? In what ways have you shown support? (Reinforce positive steps. Give examples if needed, "do special activities together, earn privileges, etc.")

6. In what ways have you tried control or discipline to prevent or reduce your son/daughter's use? (Probe for skills related to monitoring and supervision. Offer some other suggestions if needed (i.e., one of the parents I worked with said they took the door off their daughter's room until she earned it back.)

Family Rules about Alcohol and Other Drug Use

Name/ID: _____ Date: _____

1. Studies have shown that it can helpful to include your child or children in creating your household rules or expectations about alcohol or drug. Do you have rules about this in your household? If so, would you be willing to share them with me?

_____
_____
_____

2. Sometimes these rules are assumed or unsaid among family members. How have these rules been communicated to your child/ren?

_____
_____
_____

3. I recognize that adolescence can be stressful time for parents especially when alcohol/drug use is involved. With this in mind, do you have people close to you that you can turn to for support?

If Yes, how are they supportive?

If No, what types of resources are (can) you using (use) to assist you in dealing with this problem?

_____
_____
_____
_____

(Adapted from Walking the Talk: A Program for Parents about Alcohol, Tobacco and Other Drug Use and Nonuse - A Participant Workbook. Developed by The Center for Substance Abuse Prevention, Rockville, MD, 2001).

Parent (Guardian) Questionnaire

Name/ID:_____ **Date:**_____

Please answer whether you disagree or agree with these statements about your child by making a check in the appropriate blank. Your answers will be kept confidential.

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
1. As a parent/guardian, I have great concerns about my child's use of alcohol and/or drugs…..	_____	_____	_____	_____
2. I want my child to receive help for his/her alcohol and/or drug use…….	_____	_____	_____	_____
3. I want my child to quit using alcohol and/or drugs……..……	_____	_____	_____	_____
4. I want my child to reduce their usage of alcohol and/or drugs……..	_____	_____	_____	_____
5. As a parent/guardian, I am willing to do whatever is takes to stop my child from using…..	_____	_____	_____	_____
6. I believe that my child has a problem with alcohol and/or drugs……..	_____	_____	_____	_____
7. My child's use of alcohol and/or drugs is just "typical teenage behavior"…….	_____	_____	_____	_____

8. I think it's okay for my child to use alcohol and/or drugs every now and then……...

9. My alcohol and/or drug use is not a concern…

10. I tried to help my child to change his or her alcohol and/or drug use but it didn't work out…...

11. I believe my child can change his or her alcohol and/or drug use without help…….

12. I will make time to help my child with his or her alcohol and/or drug use problems……

RISK AND PROTECTIVE FACTORS

What can **Increase the Risk** of an adolescent developing a drug or alcohol problem?

- Early age of first use
- Poor social coping skills (depression, anxiety, aggression, impulsivity)
- Feeling unloved by family; low mutual attachment with parents
- Ineffective parenting (supervision, monitoring, consequences, modeling)
- Perceived external approval of drug use (peers, family, community)
- Affiliation with deviant peers
- Having easy access to money from a job or above average disposable income
- Chaotic home environment
- Past or current drug or alcohol problems within the family
- Past or current family emotional, physical, or sexual abuse or neglect (especially depression)
- _____Other - Specific to adolescent

What can **Reduce the Risk** of an adolescent development a drug or alcohol problem?

- Feeling connected with and valued by family and other significant adults
- Parental supervision
- Child involvement in activities that provide joy, enhance self-esteem, prevent idol time
- Parent involvement with child's activities
- High educational aspirations of parents and child
- Academic success
- Feeling connected with school and valuing academic achievement
- Strong bonds w/ social institutions (school, community, extra-curr. act., church)
- Personal disapproval of drug and alcohol use
- Personal belief that drug and alcohol use is dangerous and harmful
- Parents who verbalize expectations/consequences for using alcohol or drugs
- Follow through on consequences

Adapted from: Falkowski, Carol (2002). ***Dangerous Drug: An Easy–to-Use Reference for Parents and Professions.*** **Hazelden, Center City, MN.**

What a Drug Problem May Look Like

FAMILY

- ❑ **Arguments**
- ❑ **Withdrawal from family**
- ❑ **Fighting**
- ❑ **Irresponsibility**
- ❑ **Coming in late or not at all**
- ❑ **Scapegoat behavior**
- ❑ **Physically/verbally abusive**
- ❑ **Dishonesty, sneakiness**
- ❑ **Defiant, hostile**
- ❑ **Secretive, silent**
- ❑ **Destructive**
- ❑ **Money or articles missing**
- ❑ **Finding drugs or paraphernalia**

SCHOOL

- ❑ **Skipping school regularly**
- ❑ **Chronic tardiness**
- ❑ **A drop in grades**
- ❑ **Getting caught using in/before school**
- ❑ **Change in attitude & behavior**
- ❑ **Conflict with school staff or students**
- ❑ **School staff concerned**
- ❑ **Suspension, detention**

JOB

- ❑ **Chronic late arrival**
- ❑ **Inability to get along with others**
- ❑ **Irresponsibility**
- ❑ **Missing work repeatedly**
- ❑ **Accidents on the job**
- ❑ **Working below potential**
- ❑ **Fired**

SEXUAL

- ❑ **Negative change in sexual values**
- ❑ **Promiscuity**
- ❑ **Seductive dress/talk/behavior**
- ❑ **STDs**

SPIRITUAL

- ❑ **Hopelessness**
- ❑ **Extreme self-centeredness**
- ❑ **"I don't care" attitude**
- ❑ **Negative changes in values**
- ❑ **Drops interests, activities that used to be important**
- ❑ **Creative activities (i.e. art, music) accompanied by drug use**

PHYSICAL

- ❑ **Lazy, lethargic**
- ❑ **Change in appearance**
- ❑ **Regularly tired**
- ❑ **Hangovers, "sick"**
- ❑ **Broken bones**
- ❑ **Car accidents**
- ❑ **Red eyes/using Visine**
- ❑ **Blackouts, passing out**
- ❑ **Weight loss/gain**
- ❑ **Getting in fights, beat up**
- ❑ **Suicide talk or behavior**
- ❑ **Overdosing**
- ❑ **Caught high/drunk**

EMOTIONAL

- ❑ **Mood swings**
- ❑ **Flat affect**
- ❑ **Out of touch with feelings**
- ❑ **Extreme anger, depression**
- ❑ **Irritability**
- ❑ **Hopeless, "who cares" attitude**
- ❑ **Defensive**
- ❑ **Non-communicative**

LEGAL

- ❑ **Minor consumption**
- ❑ **Possession charges**
- ❑ **Shoplifting**
- ❑ **Stealing**
- ❑ **Vandalism**

MENTAL

- ❑ **Poor concentration**
- ❑ **Distracted**
- ❑ **Memory loss**
- ❑ **Lower attention span**
- ❑ **Lack of motivation**

SOCIAL

- ❑ **Negative change in friends**
- ❑ **Secretive about friends**
- ❑ **Social activities increasingly drug oriented**
- ❑ **Dropping activities not associated with drug use**
- ❑ **Unexplained coming/going, phone calls, etc**

Six Steps: Talking to kids about alcohol and other drugs

Step One – "I care"

Tell your child that you care about him or her. Attempt to build upon your relationship to help to reduce the potential defensiveness in your child. An example of this approach is, "I care about you and I don't want you to get hurt."

Step Two – "I see"

In this step, you need to tell your child what they have done that has caused you concern. Just give the facts, not your opinion, based upon what you have seen or found. An example of this is, "when you came in last night you were three hours late and smelled like alcohol."

Step three – "I feel"

This is where you tell your child about how this behavior or discovery has made you feel. Be sure to take away any blame from this step. For example, "I am really worried that you might get hurt or killed."

Step four – "Listen"

This has to be one of the most important steps. You will need to listen to what the adolescent has to say about their drug use or drinking behaviors. Some may not say anything at all at this point but it is useful to allow this opportunity for the young person to tell their side. It is possible that your child is not ready to talk. You can tell them that you are available to listen to what they have to say at another time.

Step five – "I want"

After hearing your child's side you need to tell them what you want to happen next and what you want them to do. For example, "I don't want you to use drugs at all." Reinforce that you "want" him or her to continue seeing the therapist if the problem does not get better.

Step six – "I will"

This final step is where you tell your child what you will and will not do in order to help them with this problem. Some may choose to be available to just listen when the young person chooses to discuss the issue. Other parents may choose to make an appointment with a chemical health counselor. The best time to talk is when you have calmed down from the initial shock of learning about your child's use of alcohol or other drugs. You will need to find a place to talk where you cannot be interrupted. The time to talk is not while your child is still under the influence of drinking or using other drugs. If the problem persists, encourage your child to make an appointment with the therapist.

(Adapted from Walking the Talk: A Program for Parents about Alcohol, Tobacco and Other Drug Use and Nonuse - A Participant Workbook . Developed by The Center for Substance Abuse Prevention, Rockville, MD, 2001).

HELPFUL RESOURCES FOR PARENTS

Partnership for a Drug Free America
http://www.drugfree.org/parent

Parents The Anti-Drug
http://www.theantidrug.com

4parents
http://www.4parents.gov/

Family Guide
http://www.family.samhsa.gov

Immediate Goals up to _____(list event, holiday, etc.)

1. _____
2. _____
3. _____
4. _____

Goals 1 YEAR from now

1. _____
2. _____
3. _____
4. _____

Appendix U: Independent Ratings For Counsellor Fidelity –Session #1

Date:_____ **Participant ID#:**_____ **Name of Rater:**_____

Name of Counsellor:_____

Directions: Reflect back on your session #1. Rate each item to the best of your ability on the following 1 - 4 scale:

Strongly Disagree	Disagree	Agree	Strongly Agree
1	2	3	4

Adherence-Delivery

_____ 1. The Counsellor effectively developed rapport with the student.

_____ 2. The Counsellor appeared adequately prepared for the session.

_____ 3. The Counsellor used motivational interviewing techniques when delivering the content of the session.

Adherence-Content

_____ 6. The Counsellor adequately completed the Pros and Cons exercise and summarized the answers.

_____ 7. The Counsellor effectively completed the Readiness to Change worksheet.

_____ 8. The Counsellor clearly established goals with the student.

_____ 9. The Counsellor clearly explored barriers to change with the student.

Quality

_____ 10. The Counsellor displayed enthusiasm and energy while interacting with the student.

_____ 11. The Counsellor asked questions to elicit participation and promote learning.

_____ 12. The Counsellor avoided telling the student what to do but rather encouraged him/her to reflect on their behavior and develop their own conclusions.

_____ 13. The Counsellor used verbal statements to reinforce the student's ideas, comments, questions, etc.

_____ 14. The Counsellor paused to summarize to determine if the student comprehended the information.

Independent Ratings For Counsellor Fidelity – Session #2

Date:_____ Participant ID#:_____ Name of Rater:_____

Name of Counsellor:
_____

Directions: Reflect back on your session #2. Rate each item to the best of your ability on the following 1 - 4 scale

Strongly Disagree	Disagree	Agree	Strongly Agree
1	2	3	4

Adherence-Delivery

_____ 1. The Counsellor effectively developed rapport with the student.

_____ 2. The Counsellor appeared adequately prepared for the session.

_____ 3. The Counsellor used motivational interviewing techniques when delivering the content of the session.

Adherence-Content

_____ 4. The Counsellor effectively reviewed the pros and cons from session #1 to determine if the "weight" had changed.

_____ 5. The Counsellor reviewed established goals with the student.

_____ 6. The Counsellor probed to determine the student's progress with goals.

_____ 7. The Counsellor executed the ready to change activities for session #2.

_____ 8. The Counsellor discussed dealing with peer pressure beyond "just saying no."

_____ 9. The Counsellor discussed the 5-step decision making plan.

_____ 10. The Counsellor executed the support system exercise.

Quality

_____ 11. The Counsellor displayed enthusiasm and energy while interacting with the student.

_____ 12. The Counsellor asked questions to elicit participation and promote learning.

_____ 13. The Counsellor avoided telling the student what to do but rather encouraged him/her to reflect on their behavior and develop their own conclusions.

_____ 14. The Counsellor used verbal statements to reinforce the student's ideas, comments, questions, etc.

_____ 15. The Counsellor paused to summarize to determine if the student comprehended the information.

Independent Ratings For Counsellor Fidelity – Session #3 (parent)

Date:_____ **Participant ID#:**_____ **Name of Rater:**_____

Name of Counsellor:_____

Directions: Reflect back on your session #3. Rate each item to the best of your ability on the following 1 - 4 scale:

Strongly Disagree	Disagree	Agree	Strongly Agree
1	2	3	4

Adherence-Delivery

_____ 1. The Counsellor effectively developed rapport with the parent.

_____ 2. The Counsellor appeared adequately prepared for the session.

_____ 3. The Counsellor used motivational interviewing techniques when delivering the content of the session.

Adherence-Content

_____ 4. The Counsellor reviewed the events that lead their son/daughter to this program.

_____ 5. The Counsellor provided a brief overview of the brief intervention.

_____ 6. The Counsellor utilized a non-threatening approach when inquiring about the parent's alcohol/drug use.

_____ 7. The Counsellor reviewed the 6 steps on talking to kids about alcohol & other drugs.

_____ 8. The Counsellor engaged the parent in a discussion about alcohol use family rules.

_____ 9. The Counsellor engaged the parent in a discussion about level of personal interest in helping their child change in a positive direction.

Quality

_____ 10. The Counsellor displayed enthusiasm and energy while interacting with parent.

_____ 11. The Counsellor asked questions to elicit participation and promote learning.

_____ 12. The Counsellor avoided telling the parent what to do but rather facilitated the parent to reflect on their behavior and develop their own conclusions.

_____ 13. The Counsellor used verbal statements to reinforce the parent's ideas, comments, questions, etc.

_____ 14. The Counsellor paused to summarize to determine if the parent comprehended the information.